

■ **QUAKER MEETING: GENERATING DATA**

Goals

- To generate a large number of ideas, suggestions, and/or approaches to a problem or topic when the group is too large to employ brainstorming techniques.
- To gather data quickly for a large group to process.

Group Size

Any group with more than fifty participants.

Time Required

Fifteen minutes for the actual “Quaker meeting” and whatever time seems appropriate to the processing chosen for the particular group.

Materials

- Paper and pencils for those taking notes.
- A newsprint flip chart and a felt-tipped marker.

Physical Setting

Any large meeting room.

Process

1. The facilitator notes that it is necessary to hear reactions from the total group to a given problem or topic and explains the following structure that will be used in gaining the reactions:
 - As a group participant formulates a thought, suggestion, or reaction, he or she speaks out to the entire group. Verbalizing is limited to a few words (10 to 15) so that as many as possible can speak within the fifteen-minute time frame.
 - Participants must not interrupt each other, but they must be ready to inject their thoughts quickly.
 - The participant is to feel free to express even “far out” suggestions, which may serve to trigger other, more practical ones for other participants.
 - Each reaction from a participant will be recorded; however, there will be no processing of individual ideas at this point.

2. The facilitator asks several participants to take notes on the data generated.
3. The facilitator presents a problem or topic and asks participants to begin verbalizing as quickly as their ideas form.
4. The facilitator may change the dynamics slightly by asking participants to stand as they verbalize. This will focus on individuals as well as ideas and may be appropriate to given situations; however, the process will be slower if approached in this manner.
5. The facilitator may process the data gathered in any way that is appropriate to the group. For example, the ideas may be listed on a newsprint flip chart for the entire group to process, or divided to be processed in smaller groups.

■ COOPERATIVE INVENTIONS: FOSTERING CREATIVITY

Goals

- To allow the participants to examine their individual approaches to creating ideas.
- To offer the participants an opportunity to share and learn methods of completing a creative task that requires a joint effort.
- To help the participants to gain insight into factors that inhibit creativity as well as ones that foster creativity.

Group Size

Five to fifteen pairs.

Time Required

Approximately forty minutes.

Materials

- An object card for each participant. Prior to conducting the activity, the facilitator writes the object names (from the Cooperative Inventions Object List) on 3" x 5" cards, one name per card with no duplications. Forty names are included so that the facilitator can choose the objects that are most appropriate.
- A copy of the Cooperative Inventions Task Sheet for each participant.
- A stopwatch for timing the six creative rounds of the activity (for facilitator's use).

Physical Setting

A room with enough space so that the participants can move about freely and can work in pairs without disturbing one another. Furniture may need to be moved so that the participants can move from partner to partner quickly and easily.

Process

1. The facilitator introduces the goals of the activity.
2. The facilitator distributes the object cards and copies of the Cooperative Inventions Task Sheet and asks the participants to read the sheet. After answering questions about the task, the facilitator demonstrates the creative portion of the process by drawing two cards randomly, announcing the names of the objects that appear on the

cards, and eliciting ideas from the group about how these two objects might be combined. After the participants have contributed examples, the facilitator reminds them that creativity rather than practicality is the goal and then asks them to choose their first partners. Once all participants have found partners, the facilitator tells them to begin the first ninety-second creative process. (Ten minutes.)

3. After ninety seconds the facilitator calls time and tells the participants to find new partners and repeat the creative process. This procedure is repeated until each participant has had a chance to work with a total of six partners. (Approximately ten minutes.)
4. The total group is reassembled, and the facilitator asks the following questions:
 - What was your favorite invention? What in particular did you like about it?
 - How did you personally approach this task? How did your approach differ from the approaches used by your partners? How did you and your various partners combine your approaches to generate ideas?
 - What factors or conditions made it difficult to come up with ideas? What factors or conditions made it easy?
 - What might you have done to overcome the factors that hindered your creativity?
 - What are some generalizations that we can make about the creative process?
 - How can you apply what you have learned to everyday situations in which you need to be creative? What are some specific ways in which you might be more creative in your job?

Variations

- Additional discussion questions may be added to address other subjects such as teamwork, communication, and leadership.
- The facilitator may substitute object names that relate to the participants' specific organizations or occupations. For example, if the participants were bankers, the object names might include "Waiting Lines," "Bank Lobby," "Teller Window," and "Loan Application."
- To further focus on individuals' and partners' approaches to creativity, the facilitator may allow time during steps 2 and 3 for the participants to make notes or to process their approaches with their partners.
- The activity may be run at the beginning of a workshop on creativity and repeated at the end, using different object names. Subsequently, the facilitator leads a discussion in which the two experiences are compared.

Submitted by Robert W. Russell.

COOPERATIVE INVENTIONS OBJECT LIST

Kite	Umbrella	Suitcase
Fishbowl	Clothespin	Chalkboard
Potholder	Tricycle	Firecracker
Pencil	Broom	Tape Recorder
Dinosaur	Balloon	Bow and Arrow
Zoo	Horn	Magnifying Glass
Candle	Sled	Frying Pan
Turntable	Clock	Ice Cube
Museum	Television Set	Hat
Dice	Water Gun	Pinball Machine
Fan	Folding Chair	Circus
Mirror	Skateboard	Tweezers
Can Opener	Eggbeater	
Sailboat	Coffee Cup	

COOPERATIVE INVENTIONS TASK SHEET

You are about to participate in an activity designed to help you practice your creative skills. The following explanation of the process includes tips that you might find useful:

1. You have been given a card with the name of an object on it. Your object is unique to you; no one else has received a card with its name.
2. When you are instructed to do so, you will find a partner and compare objects.
3. You and your partner will “invent” one or more new objects or ways of doing something based on the combination of the two objects.

Example: If your card reads “grocery store” and your partner’s card reads “skateboard,” the two of you might mentally invent a skateboard-like device to ride when grocery shopping in a hurry. Then you might take the creative process a step further and invent a skateboard course at a local park with “aisles” set up for people with different levels of skill at skateboarding. Another alternative might be special knee and elbow pads, patterned after those worn by skateboarders, to be used by grocery shoppers to prevent injuries when they are hit by carts.

4. You are to be as creative as possible and generate as many ideas as you can. Practicality is not an important issue, and you can go far afield with your ideas if you like. Try not to become frustrated if the task seems difficult at first. If the two objects that you are working with suggest some mundane ideas, try for more unusual or interesting ones.
5. After ninety seconds you will find a new partner and complete the process again. You will continue to switch partners and repeat the ninety-second process until you have had a chance to work with six different people.
6. Later you will share your favorite invention with the total group.

■ **BROKEN SQUARES: NONVERBAL PROBLEM SOLVING**

Goals

- To analyze some aspects of cooperation in solving a group problem.
- To sensitize participants to behaviors that may contribute toward or obstruct the solving of a group problem.

Group Size

Any number of subgroups of six participants each. There are five participants and an observer/judge in each subgroup.

Time Required

Approximately forty-five minutes.

Materials

- A set of broken squares (prepared according to directions following) for each subgroup of five participants.
- One copy of the Broken Squares Group Instruction Sheet for each subgroup.
- One copy of the Broken Squares Observer/Judge Instruction Sheet for each observer.

Physical Setting

A table that will seat five participants is needed for each subgroup. Tables should be spaced far enough apart so that no subgroup can see the puzzle-solving results of other subgroups.

Process

1. The facilitator begins with a discussion of the meaning of cooperation: This should lead to hypotheses about what is essential to successful group cooperation in problem solving. The facilitator indicates that the group will conduct an experiment to test these hypotheses. Points such as the following are likely to emerge:
 - Each individual should understand the total problem.
 - Each individual should understand how he or she can contribute toward solving the problem.

- Each individual should be aware of the potential contributions of other individuals.
 - There is a need to recognize the problems of other individuals in order to aid them in making their maximum contributions.
 - Groups that pay attention to their own problem-solving processes are likely to be more effective than groups that do not.
2. The facilitator forms subgroups consisting of five participants plus the observer/judge. The observers are each given a copy of the Broken Squares Observer/Judge Instruction Sheet. The facilitator then asks each subgroup to distribute among its members the set of broken squares (five envelopes). The envelopes are to remain unopened until the signal to begin work is given.
 3. The facilitator gives each subgroup a copy of the Broken Squares Group Instruction Sheet. The facilitator reads these instructions to the participants, calling for questions or questioning subgroups about their understanding of the instructions.
 4. The subgroups are instructed to begin work. It is important that the facilitator monitor the tables during the exercise to enforce the rules established in the instructions.
 5. When all subgroups have completed the task, the facilitator engages the subgroups in a discussion of the experience. Observations are solicited from observers/judges. The facilitator encourages the subgroups to relate this experience to their “back-home” situations.

Variations

- If one member makes a square and fails to cooperate with the remaining members, the other four can be formed into pairs to make squares of the leftover pieces. They discuss their results, and the exercise is resumed.
- The five-person teams can be given consultation assistance by the observer/judge or by one appointed member of the team. This may be a person who has done the exercise before.
- Ten-person subgroups can be formed, with two duplicate sets of the five squares distributed among them. Subgroups of six to nine persons also can be formed, which would require preparing a broken square set with one square for each person, duplicating as many of the five squares as necessary.
- An intergroup competition can be established, with appropriate recognition to the subgroup that solves the problem first.

- Members may be permitted to talk during the problem solving, or one member may be given permission to speak.
- Members may be permitted to write messages to each other during the problem solving.¹

¹Adapted with permission from Alex Bavelas, Communication patterns in task-oriented groups, *Journal of the Acoustical Society of America*, 1950, 22, 225-230. See also Bavelas, The five squares problem: An instructional aid in group cooperation, *Studies in Personnel Psychology*, 1973, 5, 29-38. Variations were submitted by Tom Isgar.

DIRECTIONS FOR MAKING A SET OF BROKEN SQUARES

A set consists of five envelopes containing pieces of cardboard cut into different patterns which, when properly arranged, will form five squares of equal size. One set should be provided for each group of five persons.

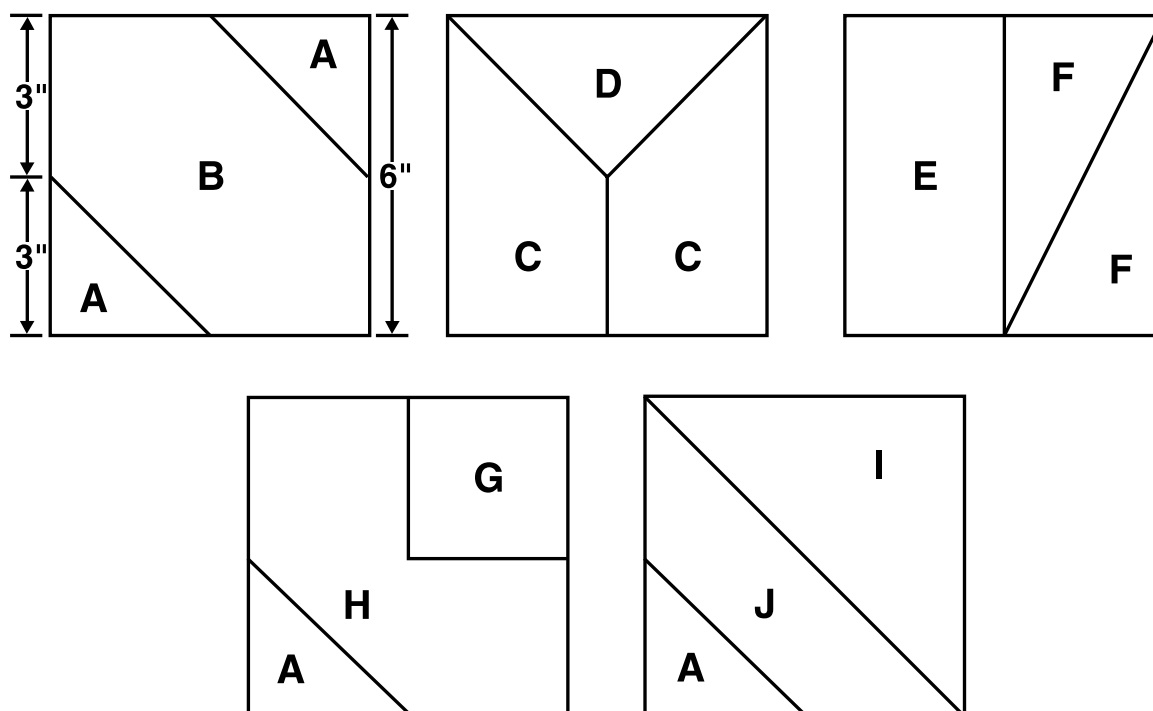
To prepare a set, cut out five cardboard squares, each exactly 6" x 6". Place the squares in a row and mark them as below, penciling the letters lightly so they can be erased.

The lines should be so drawn that, when the pieces are cut out, those marked A will be exactly the same size, all pieces marked C the same size, etc. Several combinations are possible that will form one or two squares, but only one combination will form all five squares, each 6" x 6". After drawing the lines on the squares and labeling the sections with letters, cut each square along the lines into smaller pieces to make the parts of the puzzle.

Label the five envelopes 1, 2, 3, 4, and 5. Distribute the cardboard pieces into the five envelopes as follows: envelope 1 has pieces I, H, E; 2 has A, A, A, C; 3 has A, J; 4 has D, F; and 5 has G, B, F, C.

Erase the penciled letter from each piece and write, instead, the number of the envelope it is in. This makes it easy to return the pieces to the proper envelope, for subsequent use, after a group has completed the task.

Each set may be made from a different color of cardboard.



BROKEN SQUARES GROUP INSTRUCTION SHEET

Each of you has an envelope that contains pieces of cardboard for forming squares. When the facilitator gives the signal to begin, the task of your group is to form five squares of equal size. The task will not be completed until each individual has before him or her a perfect square of the same size as those in front of the other group members.

Specific limitations are imposed on your group during this exercise.

1. No member may speak.
2. No member may ask another member for a piece or in any way signal that another person is to give him or her a piece. (Members may voluntarily give pieces to other members.)

BROKEN SQUARES OBSERVER/JUDGE INSTRUCTION SHEET

Your job is part observer and part judge. As a judge, you should make sure each participant observes the following rules:

1. There is to be no talking, pointing, or any other kind of communicating.
2. Participants may give pieces directly to other participants but may not take pieces from other members.
3. Participants may not place their pieces into the center for others to take.
4. It is permissible for a member to give away all the pieces to his or her puzzle, even if he or she has already formed a square.

As an observer, look for the following:

1. Who is willing to give away pieces of the puzzle?
2. Does anyone finish his or her own puzzle and then withdraw from the group problem solving?
3. Is there anyone who continually struggles with the pieces, yet is unwilling to give any or all of them away?
4. How many people are actively engaged in putting the pieces together?
5. What is the level of frustration and anxiety?
6. Is there any turning point at which the group begins to cooperate?
7. Does anyone try to violate the rules by talking or pointing as a means of helping fellow members solve the problem?

■ **WATER JARS: DEVELOPING CREATIVITY IN PROBLEM SOLVING**

Goals

- To demonstrate the development of mental blocks to problem solving.
- To illustrate that the process of solving problems of a repetitive nature poses a threat to creativity.
- To allow the participants to investigate ways to break mental blocks and foster creative problem solving.

Group Size

Any number of participants.

Time Required

Approximately forty-five minutes.

Materials

- A copy of the Water Jars Work Sheet for each participant.
- A pencil for each participant.
- A newsprint flip chart and a felt-tipped marker.

Physical Setting

A room with a chair and a writing surface for each participant.

Process

1. The facilitator introduces the activity by stating that it involves creative problem solving.
2. Each participant is given a copy of the Water Jars Work Sheet and a pencil and is asked to read the instructions on the handout. (Five minutes.)
3. The facilitator clarifies the task involved, emphasizing the rules listed on the work sheet. If asked any questions about the process necessary to arrive at solutions, the facilitator responds, "You have all the information you need in order to complete the task and you are free to do whatever you like within the rules." (Five minutes.)

4. The participants are instructed to begin the task. As they work, the facilitator monitors their activity, ensuring that they are attempting the problems one after another in the proper order.
5. After ten minutes the facilitator interrupts the participants, advising them to look at each problem from a different viewpoint and to try new approaches to finding solutions. Then the participants are instructed to continue their work and are reminded not to consult with one another.
6. If any participants are still working after five more minutes, the facilitator asks them to complete the task quickly so that the group can proceed with the next phase of the activity. Those who are struggling with individual problems are advised to write “no solution” in the space reserved for answers.
7. The facilitator writes the following formulas on a newsprint flip chart, announcing that each is one possible solution.

- | | |
|-----------------|-------------|
| 1. $B - A - 2C$ | 8. $A + C$ |
| 2. $A - A - 2C$ | 9. $A - C$ |
| 3. $B - A - 2C$ | 10. $A + C$ |
| 4. $B - A - 2C$ | 11. C |
| 5. $B - A - 2C$ | 12. $A - C$ |
| 6. $B - A - 2C$ | 13. $A - C$ |
| 7. $A - C$ | |

8. The facilitator leads a concluding discussion by asking the following questions:
 - What approach did you take in beginning the task? How did you choose that approach? How did it help or hinder you?
 - What patterns emerged in the sequence of solutions? Who found different solutions and patterns? What were they? How did you come up with them?
 - How did your first few solutions affect your approach to completing the task?
 - How were you affected by the instruction to finish the task in the shortest possible time? How were you affected by the instruction to try new approaches? What did you try? How did your new approaches work?
 - What pitfalls are involved in attempts to solve routine or repetitive problems?
 - How might you guard against these pitfalls?
 - If you were to complete this task again, what would you do differently?
 - How might you foster a creative approach toward solving problems?

Variations

- After step 8 the participants may be asked to complete another work sheet similar to the first one so that they can experiment with what they have learned.
- The work sheet may be amended to include rules that encourage creativity.

Submitted by S. Chintamani.

WATER JARS WORK SHEET

The Task

Each of the following problems involves Jars A, B, and C, which contain different quantities of water. For each problem, your task is to use the information provided to determine a formula for arriving at the required amount of water and to write this formula in the space provided in the “Solution” column.

Example: Using the information provided below, determine a formula for the required amount of water.

Amount of Water in Jars (Ounces)			Required Amount of Water (Ounces)
A	B	C	
6	35	8	13

In this case a possible formula for the solution is $B - A - 2C$. This formula can be checked as follows: $35 - 6 - (2 \times 8) = 13$.

Rules

1. Although there is no time limit for the task, you are expected to complete it in the shortest possible time.
2. You must work on the problems in the order in which they are presented.
3. Once you have begun the task, you may not ask the facilitator questions regarding the task.
4. Consultation or discussion with other participants is prohibited.

Problem No.	A	Amount of Water in Jars (Ounces) B	C	Required Amount of Water (Ounces)	Solution
1.	5	30	2	21	_____
2.	20	130	3	104	_____
3.	14	164	24	102	_____
4.	18	43	10	5	_____
5.	9	44	6	23	_____

Problem No.	Amount of Water in Jars (Ounces)			Required Amount of Water (Ounces)	Solution
	A	B	C		
6.	20	60	6	28	_____
7.	23	49	3	20	_____
8.	15	39	3	18	_____
9.	28	59	3	25	_____
10.	18	48	4	22	_____
11.	29	38	3	3	_____
12.	14	36	8	6	_____
13.	29	76	5	24	_____

■ BRAINSTORMING: A PROBLEM-SOLVING ACTIVITY

Goals

- To generate an extensive number of ideas or solutions to a problem by suspending criticism and evaluation.
- To develop skills in creative problem solving.

Group Size

Any number of subgroups composed of approximately six participants each.

Time Required

Approximately one hour.

Materials

A newsprint flip chart and a felt-tipped marker for each subgroup.

Physical Setting

Movable chairs for all participants.

Process

(Note: The facilitator may wish to do the sample experience which follows as a preliminary to a problem-solving session involving a “real” problem.)

1. The facilitator forms subgroups of approximately six participants each. Each subgroup selects a recorder.
2. The facilitator instructs each subgroup to form a circle. Each recorder is given a newsprint flip chart and a felt-tipped marker to be used to record every idea generated by the subgroup.
3. The facilitator states the following rules:
 - There will be no criticism during the brainstorming phase.
 - Far-fetched ideas are encouraged because they may trigger more practical ideas.
 - Many ideas are desirable.

4. The facilitator announces that participants are to imagine being cast ashore on a desert island, nude, with nothing but a belt. The participants are instructed that they will have fifteen minutes to generate ideas about what can be done with the belt.
5. At the end of the generating phase, the facilitator tells the subgroups that the ban on criticism is over. The participants are directed to evaluate their ideas and to select the best ones. (If there are four or more subgroups, the facilitator might ask two subgroups to share their best ideas and to form a single list.)
6. The facilitator then asks participants to form one large group again. Recorders take turns presenting the best ideas from their subgroups. Participants are asked to explore how two or more ideas might be used in combination.
7. The facilitator writes the final list of ideas on newsprint, and the group is asked to rank-order them on the basis of feasibility.
8. The facilitator leads a discussion of brainstorming as an approach to creative problem solving.

Variations

- The activity can be preceded by a warmup activity.
- Subgroups may be set up to compete with one another. Judges may be selected to determine criteria for ideas and to choose winners.
- Other objects can be used in the problem. Participants may brainstorm uses for a flashlight, a rope, an oar, or a corkscrew. Props may be used.

■ NUMBERS: A PROBLEM-SOLVING ACTIVITY

Goals

- To demonstrate how new information and assistance can improve performance.
- To discover how experience facilitates task accomplishment.

Group Size

Unlimited number of participants.

Time Required

One to one and one-half hours.

Materials

- Five copies of the Numbers Work Sheet and a pencil for each participant.
- Newsprint, masking tape, and a felt-tipped marker.

Physical Setting

A chair and work surface for each participant.

Process

1. The facilitator gives each participant a Numbers Work Sheet and a pencil. He or she tells the participants that they will have thirty seconds to draw lines between as many of the numbers as possible in numerical sequence. (The facilitator may draw sequential numbers randomly on newsprint and demonstrate the procedure.)
2. The facilitator calls time and distributes a second Numbers Work Sheet. He or she says that the experience gained in the first round should aid the participants in completing the task the second time.
3. At the end of thirty seconds, the facilitator calls time again, distributes a third Numbers Work Sheet, and tells participants to draw a vertical line down the center of the page. He or she tells the participants that the line separates the odd numbers (on the left side of the page) from the even numbers (on the right side of the page). The facilitator again instructs the participants to connect as many numbers as they can, in numerical sequence, within the same period of time.
4. A fourth Numbers Work Sheet is distributed; participants are instructed to draw a vertical line down the center of the page and a horizontal line across the center of the

page. They are informed that the vertical line performs the same function as before and that the horizontal line across the page divides groupings of five numbers: i.e., the numbers one through five are above the line, six through ten are below the line, eleven through fifteen are above, etc., with the exception of the sets fifty-one to fifty-five and fifty-six to sixty, which can be matched diagonally. The facilitator again allots thirty seconds for the sequencing task.

5. A fifth Numbers Work Sheet is distributed and prepared in the same way as the fourth; participants again perform the task in the same amount of time.
6. Participants are asked to report how many numbers they located in each round, and the facilitator tabulates these figures on newsprint. The facilitator points out the value of clear inputs on task accomplishment and makes the following points:
 - During round two, as a result of having gained experience in performing the task, the “typical” participant locates two or three more numbers than he or she did on the first try.
 - During the third attempt, the typical participant locates approximately 65 percent more numbers than he or she located on the first sheet. The guidance received from the leader, i.e., the indication of the function of the vertical line, is generally the cause of this improvement.
 - In the fourth round, with the information about the horizontal line, the typical participant increases his or her score 140 percent over his or her first attempt.
 - Because the fifth round is a repetition of the fourth, the improvement here is attributed to the value of experience.
 - The facilitator may also equate the information received by participants as experience gained and passed on by another person.

Variations

- Participants can report their results to the facilitator after each round.
- Teams of two or three individuals can work together on the problem.

Submitted by Brent D. Ruben and Richard W. Budd. Adapted from “Learning and Change,” in Brent D. Ruben and Richard W. Budd, *Human Communication Handbook*, New Brunswick, N.J.: Transaction Publishers, 1975. Used with permission.

NUMBERS WORK SHEET

1 31 27 32 12 34
25 13 5 22 4 54
35 41 45 42 52 58
11 3 33 56 24 2
23 43 15 14 60 44
17 29 39 8 26 10
49 55 9 40 48 28
19 47 59 36 50 6
51 7 37 20 16 38
27 53 57 46 30 18

■ POEMS: INTERPERSONAL COMMUNICATION

Goals

- To experience the interaction conditions necessary for creative problem solving.
- To arrive at a creative solution in a group situation.

Group Size

An unlimited number of subgroups of six to eight members each.

Time Required

One to one and one-half hours.

Materials

- Paper and a pencil for each participant.
- Newsprint and felt-tipped markers for each group.
- Masking tape.

Physical Setting

A room large enough for the members of each subgroup to interact without disturbing the other subgroups.

Process

1. The facilitator informs the entire group that the members will be divided into subgroups after they have individually recorded a number of responses. In these randomly chosen subgroups, they will be asked to compose a poem from the words recorded by their members.
2. Paper and a pencil are distributed to each participant, and the facilitator instructs each member to write down an example of each of the following terms. (The facilitator may give a definition or an example of each term):

- | | |
|--------------|----------------|
| 1. Verb | 6. Article |
| 2. Adverb | 7. Conjunction |
| 3. Noun | 8. Preposition |
| 4. Pronoun | 9. Infinitive |
| 5. Adjective | 10. Gerund |

3. The facilitator divides the large group randomly into subgroups of six to eight members each.
4. Each subgroup is instructed to compose a poem using the words listed by its members. The facilitator announces the rules governing poem composition:
 - All poems will have a theme.
 - Each subgroup will compose one poem using only the words previously recorded by its members. No additional words may be employed.
 - The poem should contain at least 75 percent of the words recorded by the individual subgroup members.
 - Words cannot be repeated unless they have been recorded by more than one member.
 - Nouns may be changed from plural to singular and vice versa, and the tense of verbs may be changed.
 - The subgroups will have twenty minutes in which to compose their poems and write them on newsprint.
5. A member of each subgroup is selected to read his or her subgroup's poem. After each poem is read, it is posted so that all members can see it.
6. After the presentations of the poems, the facilitator leads all participants in a discussion of the themes and meanings of the poems and directs a discussion of the subgroup dynamics and what members did or did not do to work together creatively.

Variations

- The facilitator announces a theme for the poems and distributes slips of different-colored paper to the participants; each different-colored slip contains a different rhyming word ("love," "moon," "lying," etc.) and each participant is instructed to write, in a specific meter, a line ending in a word that rhymes with the rhyming word. (Three or four same-colored sheets for each rhyming word can be used.) Participants are then instructed to team up with others who hold sheets of the same color and form a poem out of the rhyming lines that each person has written. Minor editorial changes are allowed to form the complete poem.
- In the variation above, each group (each set of color-coded strips) could be assigned a different poetic theme, e.g., love, autumn, the sea, a lion, etc.
- Instead of words exemplifying grammatical terms, each participant is instructed to list five pairs of rhyming words. Each subgroup then composes lines that end with each rhyming word and is directed to use about 75 percent of the rhyming couplets in its poem.
- Instead of listing grammatical terms, the large group is instructed to respond to a number of questions with two- to four-word phrases. Each subgroup is told to use

about 75 percent of the phrases in its poems. Questions should call for a variety of responses and may deal with feelings, values, self-disclosure, etc.

Submitted by Brian P. Holleran.

■ PUZZLE CARDS: APPROACHES TO PROBLEM SOLVING

Goals

- To generate an interest in and understanding of different approaches to problem solving.
- To compare advantages and disadvantages of different problem-solving methods.

Group Size

Up to five subgroups of six to nine members each.

Time Required

One to one and one-half hours.

Materials

- A set of Puzzle Cards for each subgroup (see Directions for Preparing Puzzle Cards).
- A copy of the Puzzle Cards Problem-Solver Sheet and a pencil for each problem solver.
- A copy of the Puzzle Cards Judge Sheet for each judge.
- Blank paper and a pencil for each observer.
- Newsprint and a felt-tipped marker.

Physical Setting

A room large enough to allow all subgroups to work without disturbing one another.

Process

1. The facilitator divides the participants into approximately equal subgroups of six to nine members each. One “judge” and two observers are selected in each subgroup; the facilitator announces that the remaining members in each subgroup are “problem solvers.”
2. The facilitator gives each subgroup a set of Puzzle Cards, gives the problem solver in each subgroup a copy of the Puzzle Cards Problem-Solver Sheet and a pencil, gives each judge a copy of the Puzzle Cards Judge Sheet, and gives each observer a piece of blank paper and a pencil. While the problem solvers and judges read their

instructions, the facilitator assembles the observers and tells them that they are to note (a) the way in which the problem solver in their subgroup approaches the task, (b) the strategies they develop, and (c) the processes they use to solve the problem. The facilitator sends the observers back to their subgroups. (Ten minutes.)

3. The facilitator announces that the problem solvers in each subgroup are to develop a written plan for how they will approach and solve the problem. (Fifteen to thirty minutes.)
4. At the end of the planning period, the facilitator calls time and announces the beginning of the fifteen-minute problem-solving period.
5. At the end of fifteen minutes, the facilitator calls time and directs the observers in each subgroup to provide feedback to the problem solvers on their problem-solving process. (Five to ten minutes.)
6. The facilitator assembles the total group. In turn, for each subgroup: (a) the judge announces the time taken to solve the problem; (b) the problem solvers reveal their plans; and (c) the observers report on the problem-solving process and how closely it followed the plan.
7. The facilitator then leads the total group in a discussion of the activity, focusing on such questions as:
 - What were the difficulties in developing a problem-solving plan? Were there different interpretations of the plan within the subgroup?
 - What differences were there between the published plans and the actual problem-solving process? How do the problem solvers account for the difference?
 - Which approaches seemed most efficient in solving the particular problem? Why were these approaches most appropriate, given the *nature of the problem* and the *resources* available?
 - How can these approaches be applied to back-home problems? What are the variables that need to be taken into account in choosing the most effective problem-solving approach?

Variations

- The facilitator can post three problem-solving approaches on newsprint:
 - If you are presented with a complicated problem, it is best to study all the facts and come up with a detailed plan before attempting any action, so that you know where you are going.
 - To solve a complicated problem, it is not necessary to think it all out before you start, even if you have all the facts in front of you. It is best to plan only small steps as you go, keeping your overall objective in mind.
 - Action is the important aspect of problem solving. It is not practical to make any plans until you have committed yourself to some action that you think may help. The effect of your action on the problem determines your next move.

Participants then form subgroups according to which approach they think is best, and the problem solvers use the approach that their subgroup has selected.

- As step 8, the facilitator can give a lecturette on problem solving.

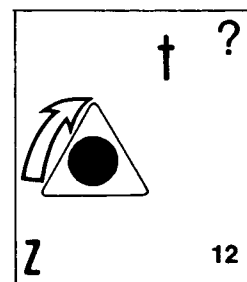
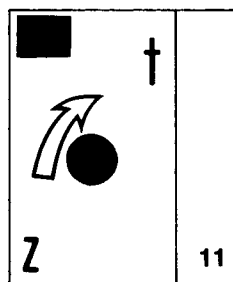
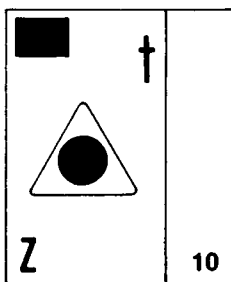
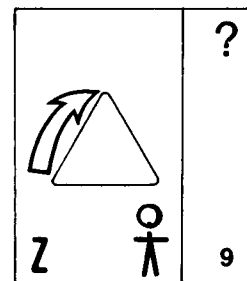
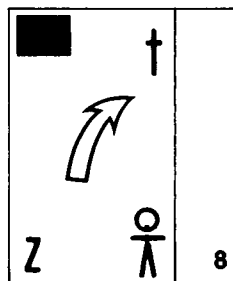
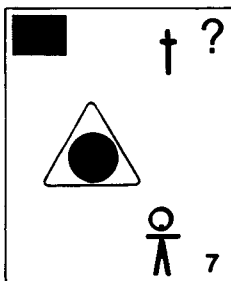
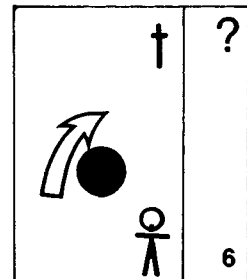
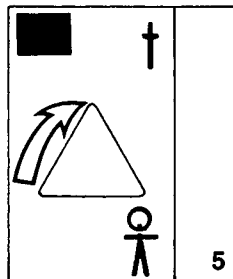
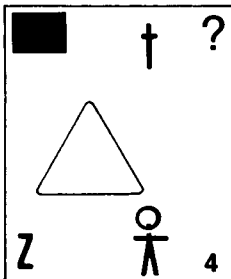
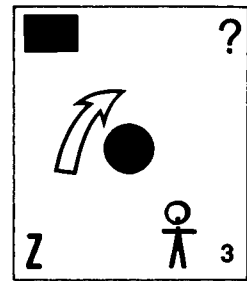
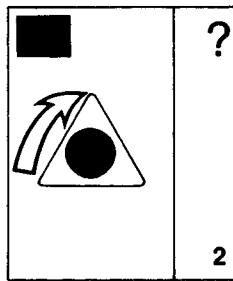
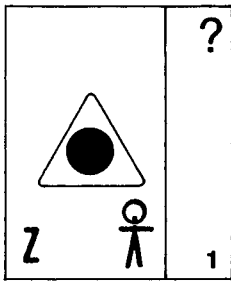
DIRECTIONS FOR PREPARING PUZZLE CARDS

Prepare a complete set of twelve puzzle cards for each subgroup of six to nine participants.

Each puzzle card should be prepared on stiff paper or cardboard and should be a *minimum* of 1.5" x 2", preferably 4" x 5".

Each of the nine different symbols should be in a different color, i.e., all triangles are green, all lines are blue, etc. The symbols are line, triangle, Z, solid circle, cross, question mark, solid square, arrow, stick figure.

The cards and their symbols should appear as follows (there are six symbols on each card):



PUZZLE CARDS PROBLEM-SOLVER SHEET

There are three roles in your subgroup: the problem solvers, the judge, and the observers. You are one of the *problem solvers*.

Your group has been given twelve numbered cards, some of which have some symbols in common. Keep the cards in front of you throughout the activity. (The numbers on the cards are only to assist you in identifying them.)

Your task is to identify one specific symbol (which only the judge knows) on the cards. To do this you may ask the judge whether a particular card bears the symbol that you are trying to identify (e.g., "Is the symbol on card 6?"). The judge will answer "yes" or "no." You may ask about only one card at a time, and no other questions are permitted until all the problem solvers in your subgroup are certain that you have identified the correct symbol.

Some facts about the cards:

- There are twelve cards.
 - Each card has six individual symbols on it.
 - There are a total of nine different symbols.
 - Each symbol appears the same number of times on the twelve cards.
-

PUZZLE CARDS JUDGE SHEET

There are three roles in your subgroup: the judge, the problem solvers, and the observers. You are the *judge*.

The problem solvers have a set of twelve cards and will try to identify one symbol common to some of the cards. You are to select the symbol (any one will work equally well).

Do not tell anyone which symbol you have selected until it is guessed correctly or the activity has ended. The problem solvers can ask you whether a particular card bears this symbol (e.g., "Is the symbol on card 6?"). They may ask you about only one card at a time.

You are obliged to answer "yes" or "no" truthfully and can give no other information. When the problem solvers all have agreed that they have identified the correct symbol, they may ask you about that specific symbol only.

You have another role that you should not reveal. Please record the time taken from the start of the activity until a successful conclusion is reached.

■ ANALYTICAL OR CREATIVE?: A PROBLEM-SOLVING COMPARISON

Goals

- To provide an opportunity to compare analytical and creative problem-solving approaches.
- To increase awareness of one's own capabilities in and preferences for these two approaches to problem solving.

Group Size

Several subgroups of three to five members each.

Time Required

Approximately one and one-half hours.

Materials

- A copy of the Analytical or Creative? Positions Problem Sheet for each of the participants.
- A copy of the Analytical or Creative? Warehouse Problem Sheet for each of the participants.
- A copy of the Analytical or Creative? Warehouse Problem Solution Sheet for each of the participants.
- A pencil for each of the participants.
- Newsprint and a felt-tipped marker.

Physical Setting

A room with space for the subgroups to interact separately as well as for total-group discussion.

Process

1. The facilitator briefly explains the goals and process of the activity.
2. The facilitator divides the participants into subgroups of three to five members each.
3. The facilitator distributes a copy of the Analytical or Creative? Positions Problem Sheet and a pencil to each participant. He or she cites a few examples of analytical

problem-solving techniques and tells the members that they will have ten minutes in which to solve the problem by analytical means. (Most subgroups will not be able to solve it.)

4. As soon as one subgroup solves the problem or when the time has expired, the facilitator shows the solution (posted on newsprint) to the total group and demonstrates how the solution was reached. Then he or she reviews the characteristics of the analytical problem-solving approach, e.g., there usually is only one correct answer to the problem and the approach used to solve it usually involves the use of mathematics, a model, a matrix, a decision tree, or other deductive reasoning processes. (Fifteen minutes.)
5. The facilitator distributes the Analytical or Creative? Warehouse Problem Sheets and announces that ten minutes will be allowed to solve the problem by creative means. (Again, some subgroups will not be able to solve the problem, but the facilitator should not give hints or structure their efforts.)
6. After all subgroups have identified a solution or when the time has expired, each subgroup is directed to explain its solution and/or the approaches it used to solve the problem. (Three minutes each.)
7. The facilitator gives each participant a copy of the Analytical or Creative? Warehouse Problem Solution Sheet and reviews the information on the sheet. The facilitator then reviews the characteristics of creative problem-solving processes, emphasizing the differences between the two approaches; i.e., the process of creative problem solving requires the ability to draw on experience, break down the problems in various ways, try out solutions, recombine ideas with other ideas, and use one's imagination. The facilitator adds that there usually are several acceptable answers to problems that require a creative approach to problem solving. (Ten minutes.)
8. The facilitator leads the participants in a discussion of which type of problem-solving approach they typically use and which type is most applicable to various kinds of problems. (Ten minutes.)
9. Generalizations are drawn from the participants' learnings, and the group discusses applications. (Fifteen minutes.)

Variations

- Subgroups can compete. The fastest solution for the “analytical” problem wins, and the most ingenious solution to the “creative” problem wins.
- Subgroups can be given the problems to solve prior to any input on analytical or creative processes. After the problem-solving activity has been completed, participants are asked to review the process they followed to determine which approach was used in each of the subgroups. An input session contrasting the two approaches is then given.

Solution to the Positions Problem

Betty Sevald	clerk	steno	manager	accountant	attorney
Tom Arnold	clerk	steno	manager	accountant	attorney
Ed Hulbert	clerk	steno	manager	accountant	attorney
Sidney Cross	clerk	steno	manager	accountant	attorney
Ted Tucker	clerk	steno	manager	accountant	attorney

1. The attorney is a male (clue 1); cross off the attorney choice for Betty Sevald.
2. Sidney Cross and Ted Tucker cannot be the manager, attorney, or accountant (clue 2); cross off those choices for them.
3. Neither Betty Sevald nor Tom Arnold is the accountant (clue 3); cross off those choices for them. This leaves only Ed Hulbert to be the accountant.
4. Ted Tucker is not the steno (clues 2 and 4), so he must be the clerk.
5. The only remaining job for Tom Arnold is the attorney.
6. Sidney Cross can only be the steno (clue 2 and process of elimination).
7. Betty Sevald must be the manager.

Submitted by Bruce A. McDonald.

ANALYTICAL OR CREATIVE? POSITIONS PROBLEM SHEET

Betty Sevald, Tom Arnold, Ed Hulbert, Sidney Cross, and Ted Tucker comprise the personnel of a firm and fill the positions of clerk, stenographer, manager, accountant, and attorney, but not respectively.

1. The stenographer bandaged the attorney's finger when he cut it while using the former's nail file.
 2. While the manager and the attorney were out of town, the accountant docked Tucker and Cross a half day's pay for taking an afternoon off to go to the ball game.
 3. The accountant is a fine bridge player, and Arnold admires his ability.
 4. Tucker invited the stenographer to lunch but his invitation was not accepted.
- What position is held by each of the above people?
-

ANALYTICAL OR CREATIVE? WAREHOUSE PROBLEM SHEET

While dealing with a rush inventory in a large warehouse, I found myself faced with the job of counting several thousand coal buckets. These buckets, which covered an area equal to several large rooms, were in stacks of twenty-four buckets each. If the stacks had been arranged in regular rows, the task would have been fairly simple. As it was, the stacks were pushed together in an irregular mass.

It was impossible to walk over the buckets to count the stacks, and there was not enough time to rehandle and restack them for counting. Yet I counted the merchandise in about half an hour without touching a single bucket. Can you tell the method I used?

ANALYTICAL OR CREATIVE? WAREHOUSE PROBLEM SOLUTION SHEET

Example of a creative solution:

Get above the buckets, take photos of the tops of the stacks with an instant camera, count the top buckets in the pictures, and multiply that number by twenty-four (the number of buckets in each stack).

There is more than one way to arrive at this type of answer:

1. Find an analogous problem and experiment with the problem-solving approach used for it. For example, to solve the problem posed in counting migrating waterfowl, photos are taken of flocks, the birds are counted, and estimations of migration patterns are made.
2. Break the problem into little problems and address them one at a time, working toward a solution.

■ BRICKS: CREATIVE PROBLEM SOLVING

Goals

- To provide the participants with an opportunity to practice creative problem solving.
- To allow the participants to experience the dynamics that are involved in group-task accomplishment.

Group Size

Three to five subgroups of four to seven participants each.

Time Required

Approximately one and one-half hours.

Materials

- A copy of the Bricks Task Sheet for each participant.
- A newsprint flip chart and a felt-tipped marker for each subgroup.
- Masking tape for posting newsprint.

Physical Setting

A room large enough to allow the subgroups to complete their task without disturbing one another.

Process

1. The participants are assembled into three to five subgroups of four to seven each.
2. Each participant is given a copy of the Bricks Task Sheet and is asked to read the handout.
3. The facilitator elicits and answers questions about the task and reads the following guidelines for creative problem solving:¹
 - Adopt a questioning attitude.
 - Establish an environment of acceptance in which ideas are considered before they are judged.

¹ Adapted from M.B. Ross, "Creativity and Creative Problem Solving," in J.E. Jones and J.W. Pfeiffer (Eds.), *The 1981 Annual Handbook for Group Facilitators*, Pfeiffer & Company, 1981.

- Examine the problem from new angles; try stating it in atypical ways.
- Break the problem into its components and list as many alternatives as possible for each component. Then combine the alternatives to create new variations.

Each subgroup is provided with a newsprint flip chart and a felt-tipped marker so that ideas can be recorded as the members work. Then the subgroups are told that they have fifteen minutes to accomplish the task and are invited to begin.

4. After fifteen minutes each subgroup is instructed to stop its work and to prepare a five-minute presentation of its ideas for the total group. The facilitator suggests that newsprint posters be created as visual aids for the presentations. (Ten minutes.)
5. The subgroups take turns delivering their presentations. Masking tape is provided so that the subgroups can display their posters.
6. The facilitator leads a discussion of the entire activity by eliciting answers to the following questions:
 - What method did your subgroup use to generate ideas? What was helpful about this method? What was not helpful?
 - How was your subgroup's approach "creative"?
 - Did everyone in your subgroup participate equally? If not, why did some members participate more than others? What effect did the members' levels of participation have on the subgroup's ability to creatively solve the problem?
 - How might this activity relate to problem solving at work? at home?
 - What might be a first step toward incorporating creative problem solving into your back-home situation?

Variations

- Each subgroup may be asked to generate uses for a specified quantity of a different material. Such materials may include packages of licorice whips, balls of yarn, can openers, and boxes of uncooked spaghetti.
- The facilitator may specify that the subgroups use brainstorming to accomplish their task.
- Issues related to competition among groups may be emphasized during the activity and the processing.

Submitted by J. Allan Tyler.

BRICKS TASK SHEET

Your subgroup has just been stranded without provisions on a deserted island. In your search for supplies, you and your fellow members locate a little food and two thousand bricks. In discussing the situation, the subgroup determines that rescue probably will not occur for at least two weeks and that the food is insufficient to support everyone for that period. Therefore, the members decide that the task of immediate importance is to generate creative ways of using the bricks to increase chances for survival.

■ **PEBBLES: VERTICAL AND LATERAL PROBLEM SOLVING**

Goals

- To provide an opportunity to compare vertical and lateral problem-solving approaches.
- To increase participants' awareness of their preferences for and capabilities in these two approaches to problem solving.

Group Size

Several subgroups of three to five members each.

Time Required

Approximately one and one-half hours.

Materials

- A copy of the Pebbles Problem Sheet for each participant.
- A copy of the Pebbles Solution Sheet for each participant.
- A pencil for each participant.
- Newsprint and a felt-tipped marker.
- Masking tape.

Physical Setting

A room in which all subgroups can work without disrupting one another.

Process

1. The facilitator briefly explains the goals and process of the activity. (Three minutes.)
2. The facilitator distributes a copy of the Pebbles Problem Sheet and a pencil to each participant and tells the participants that they have fifteen minutes in which to list their solutions to the problem. (Fifteen minutes.)
3. The facilitator calls time and divides the participants into subgroups of three to five members each. The facilitator tells the subgroups that they have thirty minutes in which to list and prioritize their solutions to the problem. (Thirty minutes.)

4. After all subgroups have identified their solutions or when time has expired, each subgroup is directed to explain their solutions or approaches that if selected to solve the problem. The subgroups alternate in reporting their solutions, starting with their first priorities. The facilitator lists the solutions on newsprint, putting the vertical solutions in one column and the lateral solutions in another column. (Fifteen minutes.)
5. The facilitator reviews the characteristics of the vertical and lateral problem-solving processes and refers to the solutions generated as examples of each. The facilitator then gives each participant a copy of the Pebbles Solution Sheet and reviews the information on the sheet. (Ten minutes.)
6. The facilitator leads the participants in a discussion of which type of problem-solving approach they typically use and which type is most applicable to various kinds of problems. The facilitator may ask the following questions:
 - Which type of problem solving do you typically use? How effective is it?
 - Which type of problem solving typically is used at work? at home? Why might there be a difference?
 - What types of problems are best solved by vertical thinking?
 - What types of problems are best solved by lateral thinking?
 - When would a combination of the two approaches be appropriate?
 - Which approach is most effective for solving a problems for which there is no “right” answer?
 - If any participants are currently unable to solve a back-home problem, how might a change in the problem-solving approach help?
7. Generalizations are drawn from the participants’ learnings, and the group discusses applications. (Fifteen minutes.)

Variations

- The facilitator can explain the differences between vertical and lateral thinking at the beginning of the experience and direct the groups to generate both types of solutions.
- The facilitator can direct the subgroups to reassemble after step 5 and give them another problem to solve strictly by lateral thinking.

Submitted by Dan Muller.

PEBBLES PROBLEM SHEET

Background: The Pebble Story¹

Many years ago, when a person who owed money could be thrown into jail, a merchant in London had the misfortune to owe a huge sum to a money lender. The money lender, who was old and ugly, fancied the merchant's beautiful, teen-aged daughter. He proposed a bargain. He said that he would cancel the merchant's debt if he could have the girl.

Both the merchant and his daughter were horrified at the proposal. So the cunning money lender proposed that they let providence decide the matter. He told them that he would put a black pebble and a white pebble into an empty money bag, then the girl would pick out one of the pebbles. If she chose the black pebble, she would become his wife and her father's debt would be cancelled. If she chose the white pebble, she would stay with her father but the debt still would be cancelled. But if she refused to pick out the pebble, her father would be thrown into jail and she would starve.

Reluctantly, the merchant agreed. They were standing on a pebble-strewn path in the merchant's garden as they talked, and the money lender stooped down to pick up the two pebbles. As he picked up the pebbles, the girl, sharp-eyed with fright, noticed that he picked up two black pebbles and put them into the money bag. He then told the girl to pick out the pebble that was to decide her fate and that of her father.

Instructions: Imagine that you are standing on that path in the merchant's garden.

1. What would you have done if you had been the unfortunate girl?
2. If you had to advise her, what would you advise her to do?
3. How did you reach your solution (briefly explain your thinking)?

¹ "The Pebble Story" from NEW THINK: THE USE OF LATERAL THINKING IN THE GENERATION OF NEW IDEAS, by Edward de Bono. Copyright © 1967 by Edward de Bono. Reprinted by permission of Basic Books, a division of HarperCollins Publishers.

PEBBLES SOLUTION SHEET

There are two general approaches to problem solving. The one most often used in business is “vertical thinking”—a logical analysis with one step or premise following another and building to a conclusion or solution. This may be described as “straight-line” thinking. The second is “lateral thinking,” in which all the things that relate to the problem are considered. Lateral thinking is typified by the process of brainstorming, in which all solutions are considered, no matter how far-fetched they may seem at first glance. It may be described as “sideways” thinking.

In some cases, vertical thinking may be best and lateral thinking may indicate dishonesty.

In other cases such as “The Pebble Story,” vertical thinking may fail to produce a solution and lateral thinking may be the best approach.

Vertical thinkers are not usually of much help in the type of situation with which you have been dealing. The way they would analyze it, there might be three possibilities:

1. The girl should refuse to take the pebble.
2. The girl should show that there are two black pebbles in the bag and expose the money lender as a cheat.
3. The girl should take a black pebble and sacrifice herself in order to save her father from prison.

None of these suggestions is very helpful. If the girl does not take a pebble, her father will go to prison; if she does take a pebble, she will be forced to marry the money lender.

Vertical thinkers are concerned with the fact that the girl has to take a pebble. Lateral thinkers become concerned with the pebble that is left behind. Vertical thinkers take the most reasonable view of a situation and then proceed logically and carefully to work it out. Lateral thinkers tend to explore all the different ways of looking at something, rather than accepting the most promising and proceeding from that.

Solution: The girl in “The Pebble Story” put her hand into the money bag and drew out a pebble. Without looking at it, she fumbled and let it fall to the path, where it immediately was lost among all the other pebbles. “Oh, how clumsy of me,” she said, “but never mind; if you look into the bag, you will be able to tell which pebble I took by the color of the one that is left.”

Because the remaining pebble was, of course, black, it must be assumed that she had taken out the white pebble—the money lender dare not admit his dishonesty. In this way, by using lateral thinking, the girl changed what seemed to be an impossible situation into an extremely advantageous one. The girl actually was better off in this way than she would have been if the money lender had been honest and had put one black and one white pebble into the bag, for then she would have had only an even chance of

being saved. As it happened, she was sure of remaining with her father and, at the same time, having his debt cancelled.

■ **QC AGENDA: COLLABORATIVE PROBLEM IDENTIFICATION**

Goals

- To introduce the process by which quality circles identify and select work-related problems as projects.
- To allow the participants to practice behaviors that are associated with effective circle membership: participating collaboratively in circle efforts, listening to other members, and withholding judgment while considering issues that are before the circle.

Group Size

Two to four ongoing work groups.

Time Required

Approximately one and one-half hours.

Materials

- A copy of the QC Agenda Work Sheet for each participant.
- A copy of the QC Agenda Procedure Sheet for each participant.
- A pencil for each participant.
- A newsprint flip chart and a felt-tipped marker for each subgroup.

Physical Setting

A room that is large enough to allow each subgroup to work without disturbing the other subgroups. A writing surface should be provided for each participant.

Process

1. The facilitator introduces the activity as one that deals with the procedure used by quality circles to identify and select work-related problems as projects.
2. Each participant is given a copy of the QC Agenda Work Sheet and a pencil and is instructed to complete the sheet. (Ten minutes.)
3. The participants are assembled into their own work groups. The members of each subgroup are asked to share their work sheets and to select the one problem of those listed that they would most like to solve as a subgroup project. (Fifteen minutes.)

4. After all subgroups have completed the task, the facilitator reassembles the total group and distributes copies of the QC Agenda Procedure Sheet and asks the participants to read this sheet. (Five minutes.)
5. The facilitator briefly discusses the content of the procedure sheet and elicits and answers any questions that the participants may have. The participants are told that although it will not be possible within the course of the activity to complete the entire QC procedure, the remaining time will be spent on the first two steps described in the handout. (Ten minutes.)
6. The individual work groups are reassembled, and each is given a newsprint flip chart and a felt-tipped marker. It is explained that each subgroup is to repeat the process of selecting one work-related problem as a project, but that this time the members are to take a different approach and follow steps 1 and 2 of the procedure used by quality circles. The facilitator emphasizes that the members should practice the behaviors cited in the procedure sheet: collaborative participation, careful and thoughtful listening, and withholding judgment until it is time to make a final decision. (Twenty minutes.)
7. After all subgroups have chosen problems as projects, the total group is reconvened. The entire activity is discussed, and the facilitator asks the following questions:
 - What were the differences in the two procedures used to complete the task?
 - Which of these two procedures proved to be more satisfying to you?
 - Did the second procedure change the chosen problem? If so, how?
 - What appear to be the advantages of the procedure used by quality circles? What are the disadvantages?
 - What additional behaviors besides those listed in the procedure sheet might be useful to members of quality circles?
 - In your experience, how and by whom are work-related problems usually solved? What is your general level of satisfaction with the outcome?
 - Which steps of the quality-circle procedure might be used by any group? What is it about these steps that can be generalized?

Variations

- During step 4 the facilitator may lead a discussion by eliciting the participants' feelings about and satisfaction with the first procedure chosen to complete the task.
- The activity may be continued by asking each individual work group to complete additional steps of the QC procedure.

- The facilitator may use the activity with new groups by instructing the participants to phrase their back-home problems in general terms (for example, absenteeism, unsafe working conditions, conflict, and high scrap rate).

Submitted by Michael J. Miller.

QC AGENDA WORK SHEET

In the spaces provided below, list the *work-related problems* that are currently plaguing your immediate work group. Think of a problem as a situation or condition for which you can identify a difference between how things are and how you would like them to be. Be *as specific as possible* in stating each problem.

1.

2.

3.

4.

5.

QC AGENDA PROCEDURE SHEET¹

A quality circle consists of three to twelve employees who constitute a single work unit. These employees may or may not perform the same work, but generally they do share the same work area, belong to the same department, and work for the same supervisor. They meet regularly, generally once a week on company time, for the purpose of identifying, analyzing, and solving problems related to their work and work area. They develop recommendations for solving these problems, present their recommendations to management (if necessary), implement solutions, and then evaluate the impact of the implemented solutions.

In order to function effectively, the members of a quality circle must develop certain behaviors that allow them to complete the problem-solving procedure. These behaviors include not only participating collaboratively in circle efforts, but also listening carefully to fellow members and withholding judgment about various ideas and suggestions until it is time to select a final solution.

The problem-solving procedure that calls for the use of these behaviors includes the following steps:¹

1. *Identifying Problems.* To identify work-related problems, the members use a technique called brainstorming in which they take turns making contributions of problems that might make worthwhile projects. When used effectively, brainstorming works in the following way:

- As ideas are contributed, they are listed on newsprint or a chalkboard.
- Each member offers only one idea per turn. If a member does not have a contribution to make on any particular turn, he or she simply says “pass.”
- No opinions about ideas, either positive or negative, may be stated. The withholding of judgment at this point is important so that creativity is not stifled.
- The process continues until all contributions have been exhausted.

2. *Selecting a Problem.* A circle works on solving only one problem at a time. The members discuss all problems identified in step 1 and then choose one. The process used to arrive at this choice is governed by the following principles:

- No voting, bargaining, or lobbying is permissible.
- Each member must be offered an opportunity to express his or her opinion and the reasons for holding this opinion.
- No member may say that the opinions of another member are “wrong.”
- All members must care about the problem that is finally chosen; they must be willing to commit themselves to its resolution.

¹ Adapted from R.G. James and A.J. Elkins, *How to Train and Lead a Quality Circle*, copyright © 1983, Pfeiffer & Company, and from L. Fitzgerald and J. Murphy, *Installing Quality Circles: A Strategic Approach*, copyright © 1982, Pfeiffer & Company.

- The members must be able to do something about the chosen problem. Problems that the circle cannot possibly solve either on its own or with help provided by management constitute inappropriate projects.

3. *Analyzing the Problem.* After a problem has been selected, it must be defined in writing in precise, detailed terms. Defining includes specifying why the situation or condition is a problem; where and when the problem exists; and the impact of the problem on productivity, morale, and so forth. Another task to be completed is determining the causes of the problem, which may necessitate obtaining data from experts.

4. *Generating and Evaluating Possible Solutions.* During this step the members think as creatively as possible to come up with a wide range of alternative solutions. Brainstorming is the technique that is generally used for this process. Subsequently, the benefits, costs, and possible ramifications of each alternative are considered.

5. *Selecting a Solution.* After each alternative has been analyzed, the members choose the one that seems most appropriate.

6. *Implementing the Solution.* A detailed plan to guide the implementation is essential. When developing this plan, the members outline what should be done, when the work should begin, and who should do it. They also consider potential problems and ways to deal with these problems. Finally, they develop a plan for evaluating the solution by determining what they will accept as evidence that the solution has worked, how they will collect this evidence, who will collect it, and when it will be collected.

■ MARZILLI'S FINE ITALIAN FOODS: AN INTRODUCTION TO STRATEGIC THINKING¹

Goals

- To help the participants to become more aware of the assumptions they make in solving problems.
- To demonstrate the value of suspending assumptions while engaged in problem-solving efforts.
- To introduce the participants to the concept of strategic thinking and to give them an opportunity to practice it.

Group Size

Fifteen to forty participants in subgroups of five to eight members each.

Time Required

Approximately one hour and thirty to forty-five minutes.

Materials

- One copy of the Marzilli's Fine Italian Foods Case Study Sheet for each of the participants.
- One copy of the Marzilli's Fine Italian Foods Guidelines for Strategic Thinking for each of the participants.
- A newsprint flip chart and a felt-tipped marker for each subgroup.
- Masking tape for posting newsprint.

Physical Setting

A large room in which the subgroups can work without disturbing one another. Movable chairs should be provided.

Process

1. The facilitator announces that the participants will be working on a case study and then asks them to assemble into subgroups of five to eight members each.

¹ An excellent source of background on strategic thinking is *Applied Strategic Planning: A Comprehensive Guide*, by L.D. Goodstein, T.M. Nolan, and J.W. Pfeiffer, 1992, San Diego, CA: Pfeiffer & Company.

2. Each participant is given a copy of the case study sheet and is asked to read the contents. (Five minutes.)
3. The facilitator explains that within each subgroup the members are to spend twenty-five minutes discussing the case and deciding, as a subgroup, which of the two options presented is the better choice. The facilitator further explains that each subgroup should select a spokesperson to report the members' decision and their rationale to the total group. Then the subgroups are told to begin. (Twenty-five minutes.)
4. At the end of the working period, the facilitator calls time, reconvenes the total group, and asks the spokespersons to take turns reporting the decisions and rationales. If some subgroups have chosen alternatives beyond the two mentioned in the case study, the facilitator simply accepts their decisions without asking for clarification or elaboration. (Two minutes per report.)
5. The facilitator gives each participant a copy of the guidelines for strategic thinking and leads a brief discussion of the handout. During the discussion the facilitator emphasizes how assumptions can govern planning options, points out the assumptions underlying the two options in the case study, defines strategic thinking as the search for opportunities in the environment, and provides examples of how to put each guideline into practice. (Ten minutes.)
6. The participants are told to reconvene their subgroups and to open up their thinking about what Jim Marzilli's options might be. The facilitator explains that this task necessitates abandoning all restrictive assumptions, searching for opportunities, and generating as many options as possible. In addition, the facilitator tells each subgroup to select a recorder to record the subgroup's ideas and to present them later to the total group. Each recorder is given a newsprint flip chart and a felt-tipped marker. (Twenty minutes.)
7. The facilitator tells the subgroups to stop their work, reconvenes the total group, and asks the recorders to take turns reporting. Each recorder posts his or her newsprint list at the beginning of the report; all lists remain posted for the duration of the activity. (Ten minutes.)
8. The facilitator concludes with a discussion focused on the following questions:
 - How did your thinking change after the discussion of the guidelines for strategic thinking? What different feelings did you experience?
 - How did your subgroup's process change as a response to the guidelines? How would you describe the difference in results between the first and second discussions of Marzilli's options?
 - What generalizations can you draw about the effect of assumptions on problem solving? What generalizations can you draw about eliminating restrictive assumptions?

- What are some of the assumptions you generally make in solving problems in your own work environment?
- What is one new action you might take to reduce the effect of assumptions in your own problem-solving efforts?

Variations

- Because the decision about the future of the business rests to a great extent on Jim Marzilli's values, the participants may be asked to assess these values during the course of the activity.
- In step 7 the facilitator may list the subgroup responses on newsprint in categories such as products/services, locations, types of distribution, and so on. Then the categories and their entries may be discussed.
- After the discussion in step 8, the participants may be asked to generate (1) a list of assumptions they make that restrict problem solving and (2) a method to eliminate or reduce the effects of each assumption. Then they could share their lists and methods in subgroups and receive feedback from their fellow subgroup members.
- The facilitator may continue the activity by asking the participants to examine and discuss the viability of the options presented. During the discussion the facilitator should ask the participants to consider what information they would need in order to make a wise decision about what should happen to the Marzilli business.
- The activity may be used with ongoing groups as a warm-up to an actual planning or problem-solving effort.
- The case study may be used as a planning problem in a workshop on strategic planning. In this case the participants would be asked to design a planning process that would allow Jim Marzilli to make a wise decision about the future of the business. *Applied Strategic Planning: A Comprehensive Guide* may be used as a model of the process to be followed, and the participants may be asked to discuss what they might do in each phase of strategic planning. The facilitator should note that continuing the strategic planning process in this fashion would require a great deal of additional time.

Submitted by Homer H. Johnson.

MARZILLI'S FINE ITALIAN FOODS CASE STUDY SHEET

Marzilli's Fine Italian Foods is a grocery store founded in 1945 by Gino Marzilli and his wife Maria. In its early years the business provided Italian specialty grocery items to the residents of an Italian immigrant neighborhood in the center-city area. Gino and Maria were immigrants themselves. Gino's family ran a grocery store in Milan, Italy, and his own store had much of the flavor of Milan.

Over the years the business has been quite successful. In 1962 Gino and Maria bought a large building not far from the original store. The building was remodeled and provided them with a much larger store area plus an apartment to live in. In 1970 they also began producing homemade pasta and a series of high-quality sauces to be used with Italian foods. The recipes were developed by Maria, and the products are sold exclusively at the store and have continued to be quite popular.

Gino and Maria retired to Florida in 1982 and turned the business over to their only child, Jim Marzilli. Jim has been involved in the business all of his life. He is married, but his wife has not been involved in the business. They and their four children live in a southern suburb of the city.

Although the business remained very successful in the 1980s, more recently the sales revenues have shown a steady decline. Jim attributes this decline to several factors. Most important is the fact that most of the old Italian population has moved from the center-city area to the suburbs. These people are dispersed in five or six southwestern suburbs that are a forty- to sixty-minute drive from the old neighborhood. Thus, many of the store "regulars" shop infrequently at Marzilli's, although the store is crowded on Fridays and Saturdays, particularly before holidays and feast days.

The center-city neighborhood where the store is located is now populated by young professionals. Although some of them patronize the store, they purchase only a limited number of items, such as the bread and certain sauces. Jim feels that this is because their knowledge of Italian cuisine is limited, although many seem to be interested in Italian cooking.

Over the past year the business has been barely at the break-even point, and Jim feels it is time to do something about the situation. He would like the store to be the busy meeting place for Italians that it was in the 1960s but realizes that times have changed. He is 52 years old and does not want to retire or sell the business. Three of his four children now live out of town and are not interested in the business, but his youngest son Dom has expressed some interest. Dom lives in an apartment above the store and works downtown for a market-research firm. His wife June is a teacher and has helped in the store during rush times. Although June is not Italian, Jim says that she is almost as great an Italian cook as his mother. Dom and June have no children.

At this point Jim sees two basic options:

1. *Maintain the same line of products, but cut back on the number of employees and store hours.* Because much of the business comes from old customers who come on

Fridays and Saturdays, Jim feels that he could maintain the same level of sales by being open only Tuesday through Saturday.

He now has six employees and thinks he could get along with four. The shorter hours and cutback of employees will cut costs; and if sales remain at about the same level, Jim thinks the business will be profitable in the coming years.

2. *Start adding "American" foods to attract more of the current neighborhood residents.* Thus, Marzilli's would become a neighborhood grocery store rather than an Italian specialty food store. Jim would retain some Italian foods to serve his old customers, but their store would gradually evolve into a neighborhood grocery store. There are no grocery stores within a four- or five-block radius, and Jim feels that he could pick up a lot of neighborhood trade.

Which of these two options would you recommend to Jim?

MARZILLI'S FINE ITALIAN FOODS GUIDELINES FOR STRATEGIC THINKING

1. Keep loose; open up your thinking; keep an open mind.
2. Distinguish between the ends and means of planning so that you do not confuse how you accomplish your goals with what your goals are.
3. Ask questions that you may not have had the time to ask previously.
4. Focus on opportunities, not on resources.
5. Identify your assumptions. Concentrate on the “restrictive assumptions”—those that you assume cannot be changed—and change them.
6. Generate as many ideas as you can—the more the better. There is no such thing as a stupid idea. Some may prove better than others for the current situation, but you will not know which ideas are superior unless you express all that occur to you.

■ PUZZLING ENCOUNTERS: CREATIVE BRAINSTORMING

Goals

- To help the participants to explore elements of teamwork in group problem solving.
- To help the participants to explore how to develop creative abilities in a group setting.
- To provide an opportunity for participants to compare individual creativity with group brainstorming activities.

Group Size

Three to six subgroups of four or five participants each.

Time Required

One hour and forty-five minutes.

Materials

- One set of Puzzling Encounters cartoons, distributed as follows:
 - Puzzling Encounters Cartoon 1 for the first subgroup.
 - Puzzling Encounters Cartoon 2 for the second subgroup.
 - Puzzling Encounters Cartoon 3 for the third subgroup.
 - Puzzling Encounters Cartoon 4 for the fourth subgroup.
 - Puzzling Encounters Cartoon 5 for the fifth subgroup.
 - Puzzling Encounters Cartoon 6 for the sixth subgroup.
 - Puzzling Encounters Cartoon 7 for step 6.
- At least six sheets of newsprint paper and several felt-tipped markers for each subgroup.
- A sheet of blank paper and a pencil for each participant.
- Overhead transparencies of each Puzzling Encounters cartoon.
- An overhead projector and screen.
- A newsprint flip chart and a felt-tipped marker for the facilitator.
- Masking tape for posting newsprint.

Physical Setting

A room with adequate space for subgroups to work without disturbing one another. A table and chairs should be provided for each subgroup.

Process

1. The facilitator introduces the goals of the activity, asks the participants to assemble into subgroups of no more than five participants each, and instructs each subgroup to be seated at a separate table. (Five minutes.)
2. The facilitator distributes blank paper and a pencil to each participant and several sheets of newsprint and markers to each subgroup. The facilitator then distributes a different Puzzling Encounters handout to each subgroup. (Five minutes.)
3. The facilitator explains that each of four rounds will last for three minutes. For round 1, each subgroup is instructed to generate as many captions for its cartoon as possible and to chart the captions on newsprint. (Five minutes.)
4. After three minutes, the facilitator calls time. For round 2, each subgroup is directed to give its cartoon to another subgroup. Each subgroup is assigned to generate as many captions for the new cartoon as possible. Again the captions are charted on newsprint. (Five minutes.)
5. The facilitator calls time. For round 3, the facilitator asks each subgroup to give its cartoon to a third subgroup, to generate captions for the third cartoon, and to chart the captions on newsprint. (Five minutes.)
6. The facilitator calls time. For round 4, the facilitator uses an overhead projector to display a formerly unseen cartoon. The participants are instructed to work individually to generate captions for the cartoon and to write their captions on a sheet of blank paper. (Five minutes.)
7. After three minutes, the total group is reconvened. The facilitator displays one of the cartoons, using the overhead projector and the prepared transparency. The three subgroups who worked with that cartoon post their lists of captions. After reading all the captions, the total group is polled to select a favorite caption. This process is repeated for each of the cartoons. (Thirty-five minutes).
8. The participants take turns sharing the captions they independently assigned to the round-4 cartoon. They are given an opportunity to comment on the round-4 captions they consider most clever. (Fifteen minutes.)
9. The facilitator then leads a concluding discussion based on the following questions:
 - How did your subgroup generate ideas? What was helpful about this approach? How did this approach hinder creativity?
 - How did your subgroup's approach in the first three rounds differ from your independent approach in round 4?

- To what degree did the members of your subgroup participate? How did they participate? What effect did the participation have on the problem-solving process? What does this suggest about teamwork?
- In what ways did this activity reflect your previous experiences with group problem solving? In what ways was it different? What did you learn?
- How might this activity relate to problem solving or creativity at work? In a social setting?

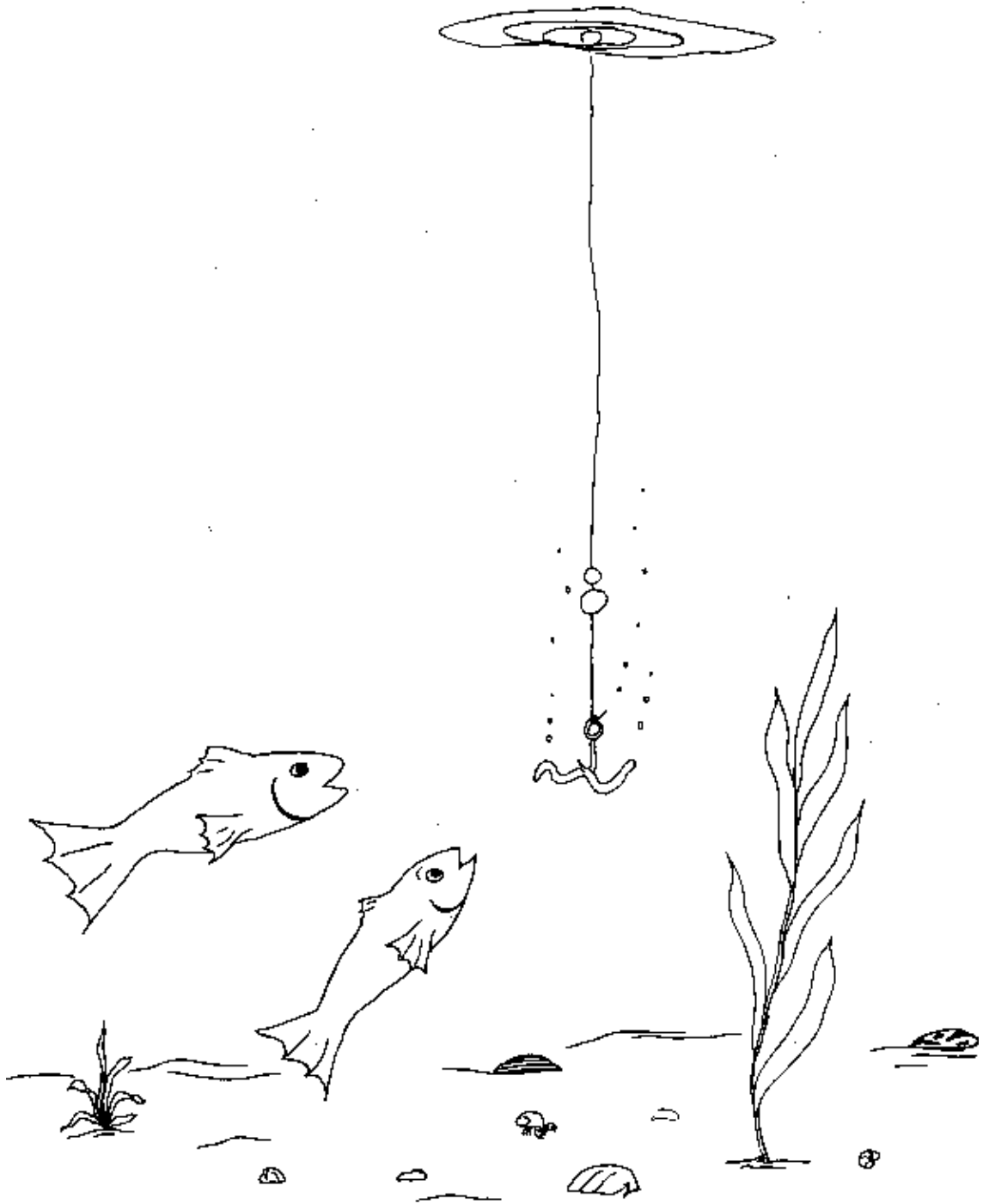
(Twenty-five minutes.)

Variations

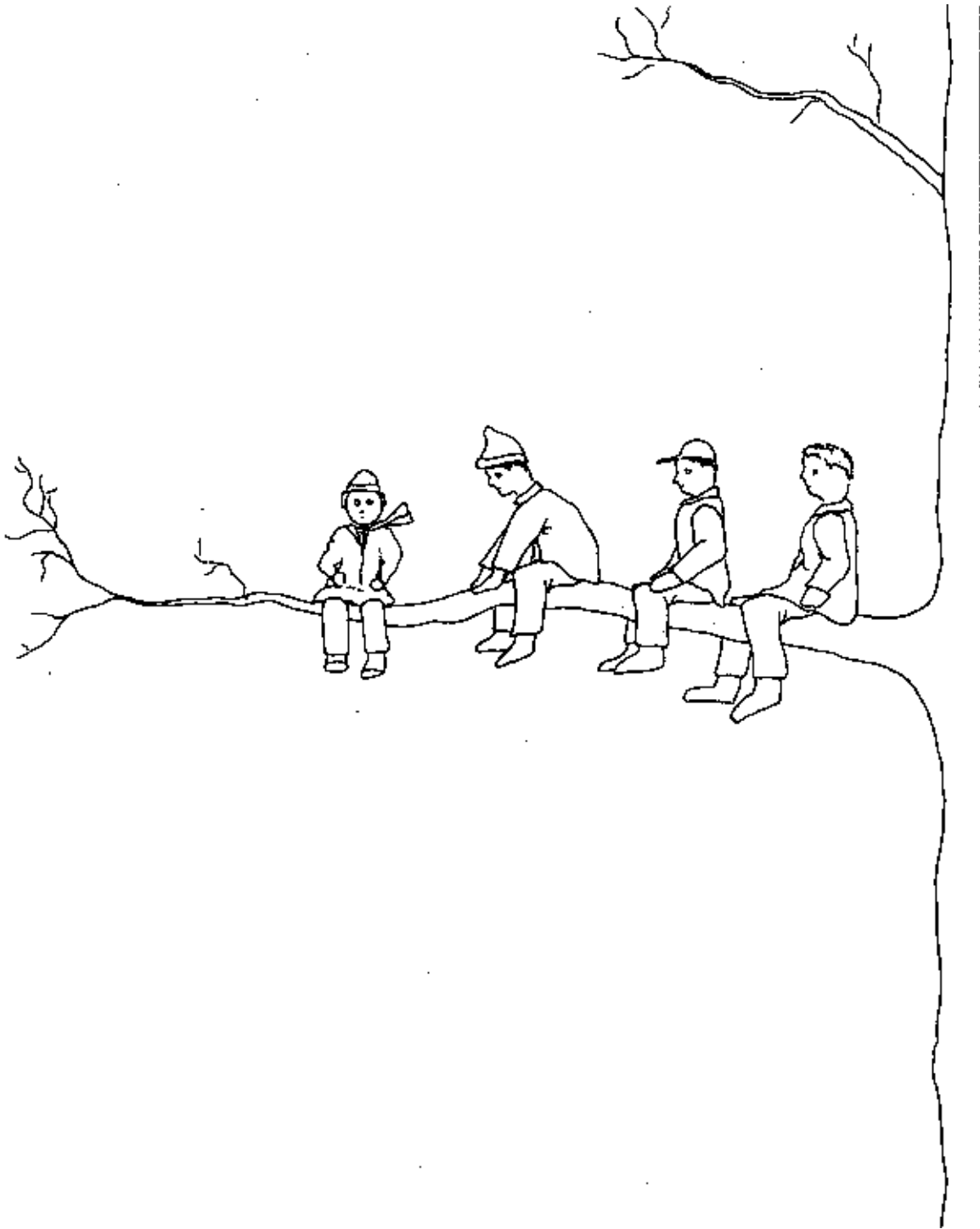
- The facilitator may substitute any single-frame cartoons for the ones provided.
- As an icebreaker activity, the facilitator may cut each cartoon into puzzle pieces. Subgroups are formed when the participants locate the other participants with pieces of the same puzzle.
- The first subgroup could write a portion of each caption, the second subgroup could add a few words, and the third subgroup could complete it.
- Participants may work individually on each cartoon within their subgroups before working together to generate ideas.

Submitted by Barbara Harville.

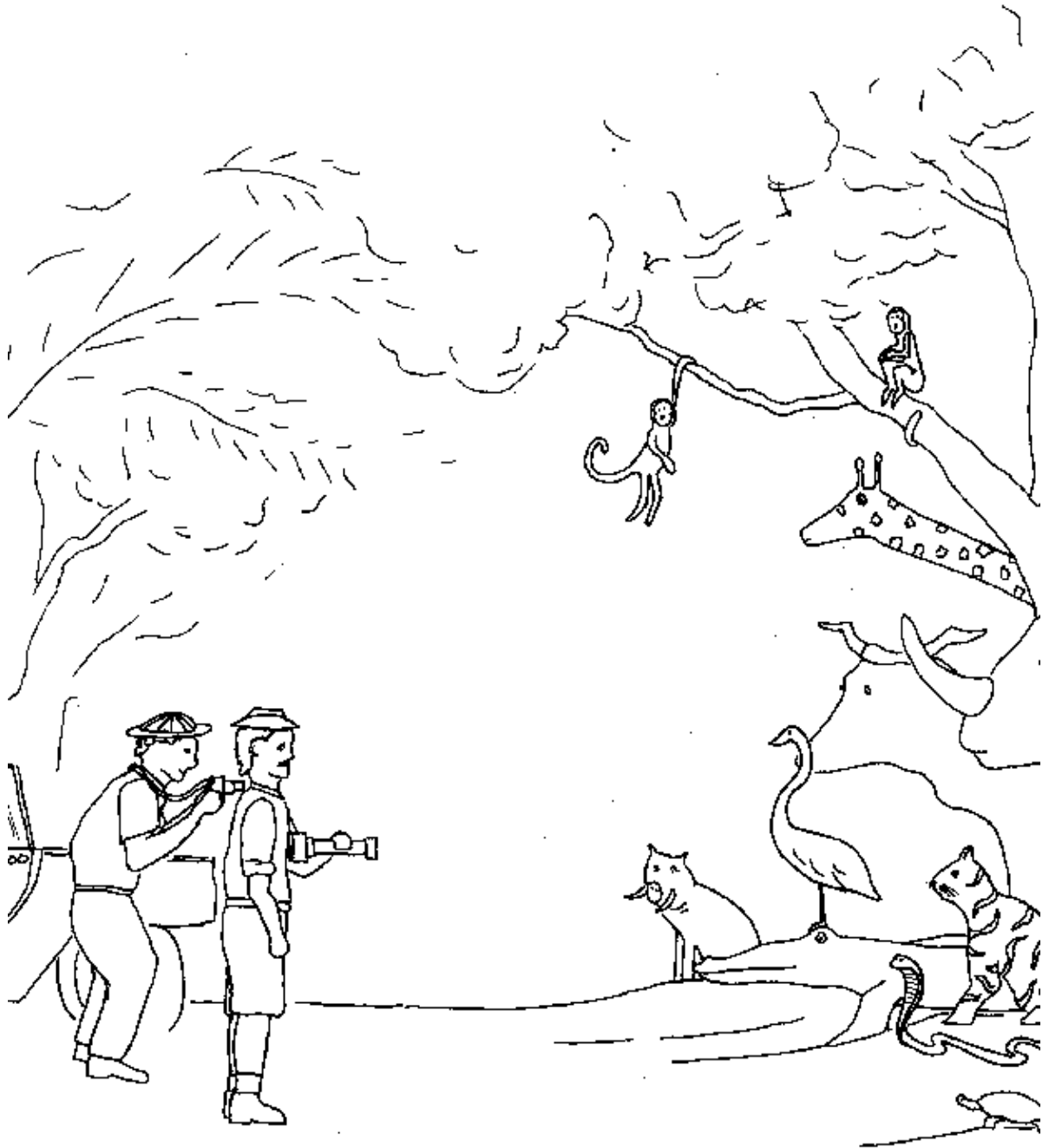
PUZZLING ENCOUNTERS CARTOON 1



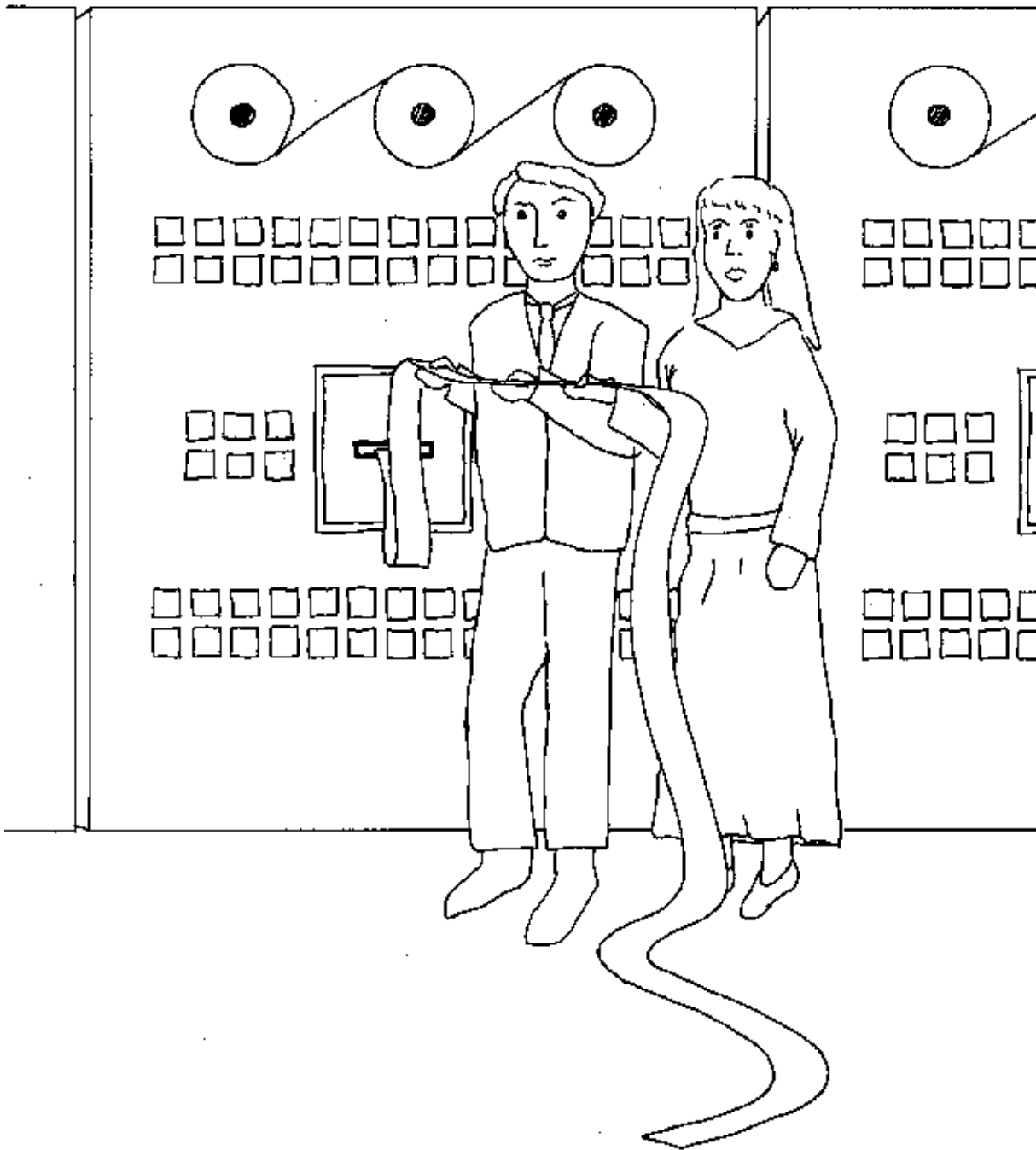
PUZZLING ENCOUNTERS CARTOON 2



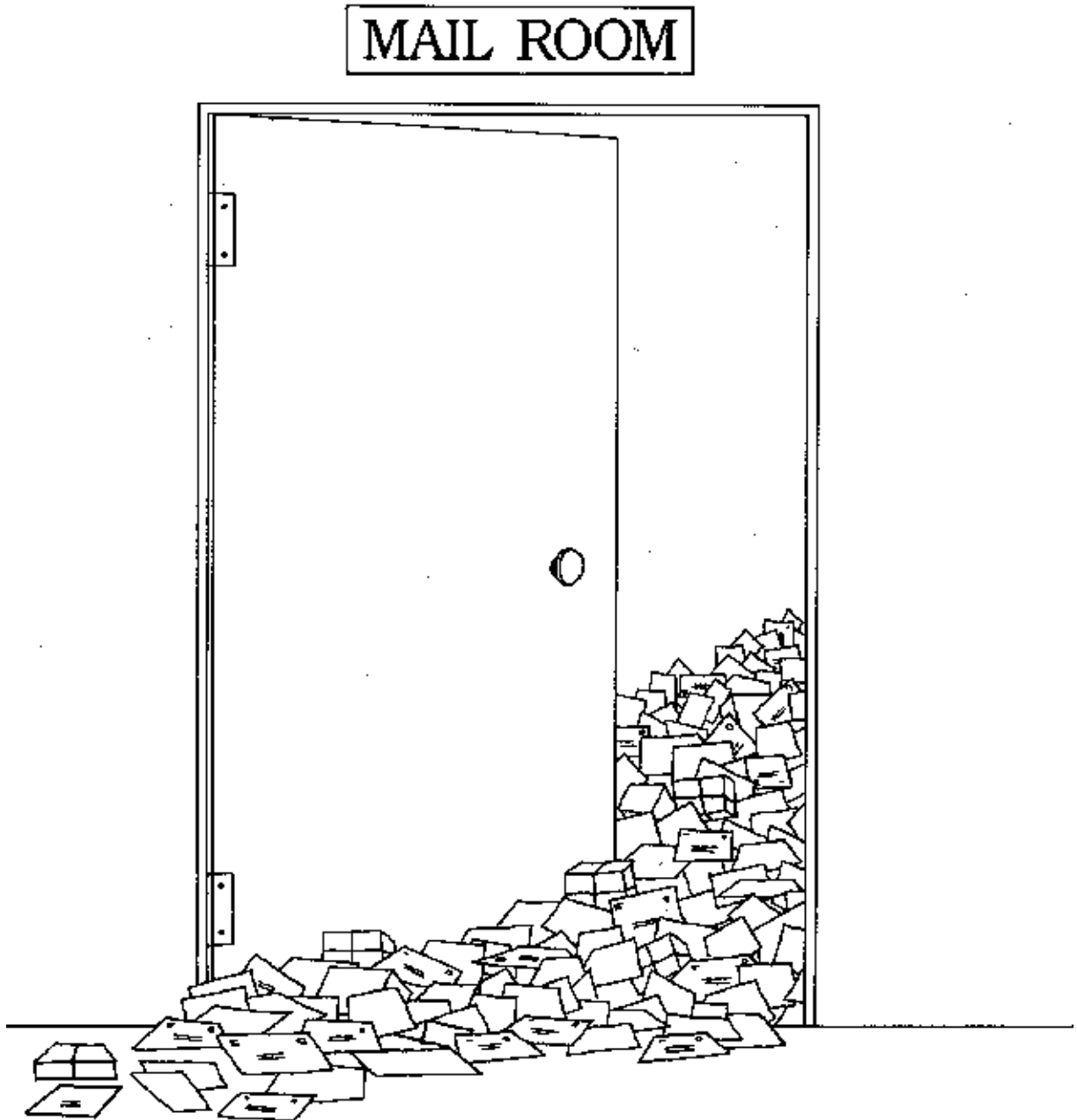
PUZZLING ENCOUNTERS CARTOON 3



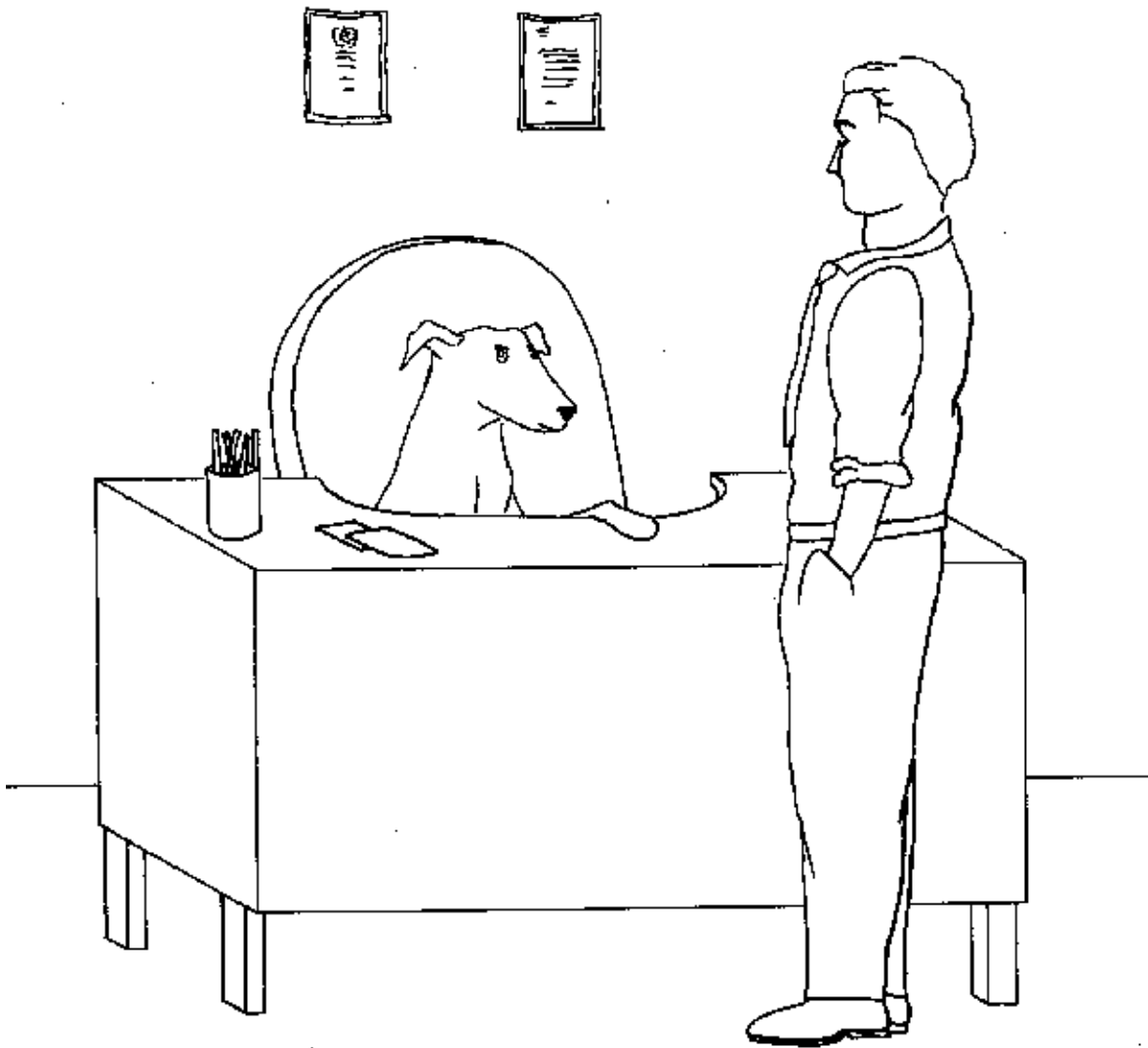
PUZZLING ENCOUNTERS CARTOON 4



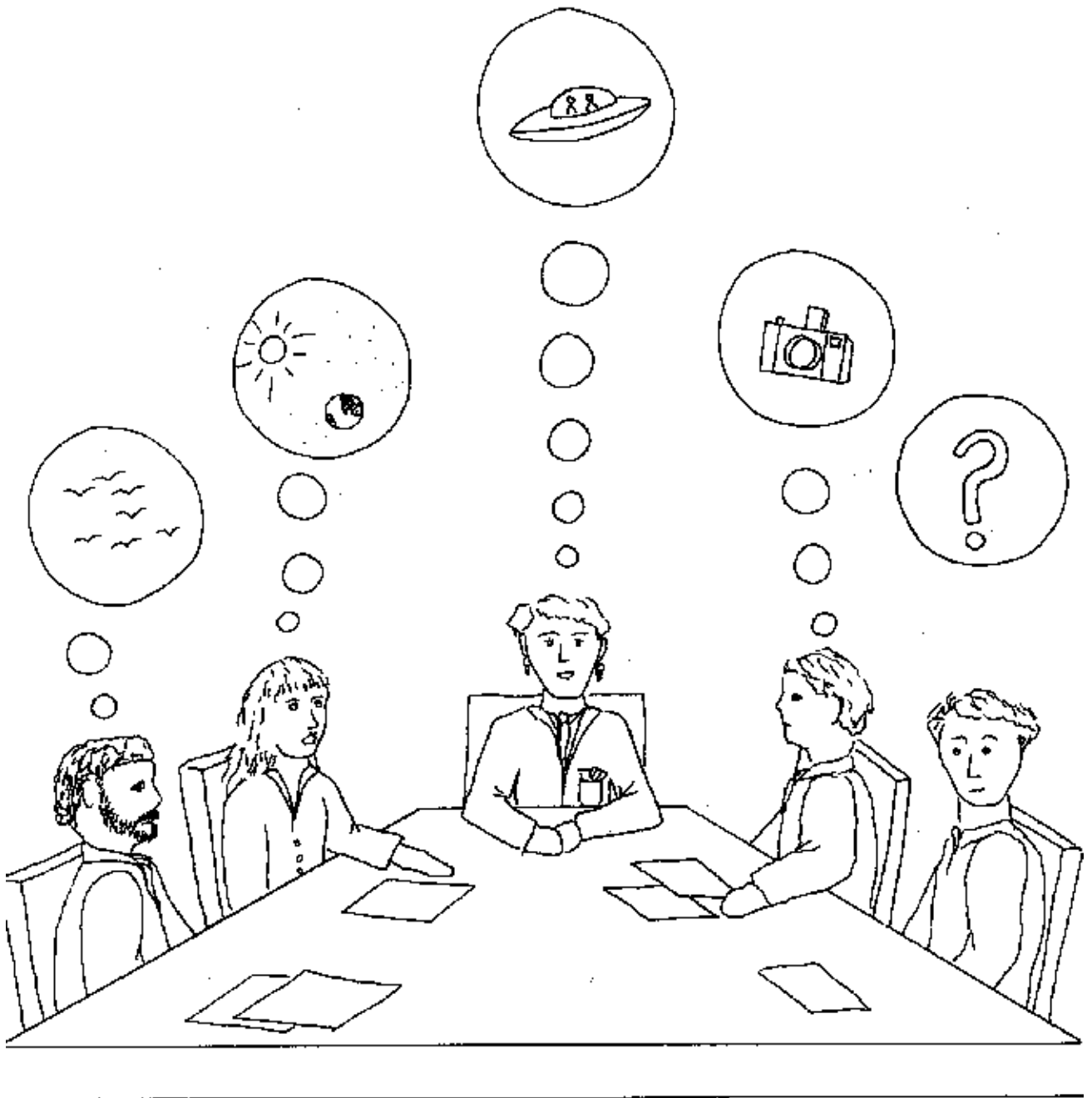
PUZZLING ENCOUNTERS CARTOON 5



PUZZLING ENCOUNTERS CARTOON 6



PUZZLING ENCOUNTERS CARTOON 7



■ GREENBACK FINANCIAL SERVICES: COMPETITIVE OR COLLABORATIVE PROBLEM SOLVING?

Goals

- To offer the participants an opportunity to experience a group problem-solving situation.
- To assist the participants in identifying the feelings evoked by different problem-solving techniques.
- To help the participants to determine when competition and collaboration are appropriate as problem-solving strategies.
- To encourage the participants to analyze the effectiveness of their own problem-solving techniques.

Group Size

Three or four subgroups of seven or eight participants each.

Time Required

One and one-half to two hours.

Materials

- A copy of the Greenback Financial Services Background and Task Sheet for each participant.
- A set of Greenback Financial Services Role Sheets 1 through 6 for each subgroup (a different sheet for each of six members).
- A copy of the Greenback Financial Services Observer Sheet for each observer.
- A clipboard or other portable writing surface for each observer.
- A pencil for each participant.
- Seven or eight name tags for each subgroup. Prior to conducting the activity, the facilitator completes six of each subgroup's tags with the job titles appearing on the role sheets and the remaining one or two tags with the word "Observer."

Physical Setting

A large room in which the subgroups can conduct their role plays without disturbing one another. It is helpful but not essential to have a table and chairs for each subgroup.

Process

1. After announcing that the participants will be involved in a role play, the facilitator assembles subgroups of seven or eight members each.
2. The facilitator distributes copies of the Greenback Financial Services Background and Task Sheet and asks the participants to read this sheet. (Five minutes.)
3. Role sheets are distributed within each subgroup in such a way that each of six members receives a different sheet. Each of the remaining members of the subgroup receives a copy of the observer sheet and a clipboard or other portable writing surface. Pencils and name tags are distributed within each subgroup, and the participants are instructed to wear their name tags for the duration of the activity.
4. All participants are instructed to read their handouts, and the role players are asked to spend the next few minutes thinking about how to play their roles. During this time the facilitator meets with the observers in a separate area of the room, eliciting and answering questions about their task. (Five minutes.)
5. The observers return to their subgroups. The facilitator invites the participants to ask questions about the background situation but not about individual roles. After answering questions the facilitator emphasizes the need for authentic role behavior to simulate reality and then instructs the subgroups to begin.
6. After thirty minutes the facilitator tells the subgroups to stop their role plays and asks the following questions:
 - How satisfied are you with the outcome of your subgroup's work? How satisfied are you with the process that your subgroup used to solve the problem?
 - During the role play, what were your feelings toward your fellow role players? How did you feel about your own behavior?
 - What things were said or done that were helpful in terms of solving the problem? What things were not helpful? How did the helpful and unhelpful things affect the team process?
 - What could have been done differently to improve the outcome?(Fifteen minutes.)
7. The observers are invited to take turns sharing their observations, with all observers responding to a single question on the observer sheet before proceeding to the next. The role players are encouraged to share their reactions to the observers' comments. (Fifteen to twenty minutes.)
8. The facilitator briefly presents the differences between win-lose and win-win approaches to conflict¹ and then leads a concluding discussion based on these questions:

¹ See, for example, "Win/Lose Situations" by G.E. Wiley, 1973, in J.E. Jones and J.W. Pfeiffer (Eds.), *The 1973 annual handbook for group facilitators* (pp. 105-107), San Diego, CA: Pfeiffer & Company.

- In what ways did the role-play situation resemble other problem situations that you have encountered at work or at home?
- When you are involved in competition with another person, what techniques do you generally use? In the end how satisfied are you with the process and the outcome?
- When is competitive (win-lose) behavior appropriate? What are the advantages and drawbacks of competitive behavior?
- When is collaborative (win-win) behavior appropriate? What are its advantages and drawbacks?
- What might be the impact of competition on a group? What might be the impact of collaboration?
- What have you learned about problem solving, competition, and collaboration as a result of this activity? What techniques would you like to try during your next problem-solving effort with another person?

Variations

- With minimal rewriting of the role sheets, the facilitator may add other issues to be considered, such as sexual or racial stereotypes.
- The competitive element may be emphasized further by structuring the activity so that the subgroups compete against one another for the quickest or best solution.

Submitted by John E. Hebden.

GREENBACK FINANCIAL SERVICES BACKGROUND AND TASK SHEET

Greenback Financial Services, Inc., founded in 1973, provides a range of financial services to clients that include both private individuals and small- to medium-sized organizations. These services include buying and selling stocks and insurance, establishing and administering trust funds, advising about taxes, and funding loans and mortgages.

Recently Greenback has been undergoing considerable change. Its top-management team, which formerly included a number of accountants and financial experts responsible for different aspects of the company's services, is now much smaller and is based on the company's functional areas. The team members are the president, who works part-time; the executive vice president; the vice president of finance; the vice president of marketing; the vice president of operations; and the vice president of human resource development (HRD). Although this change reflected a number of pressures that were becoming irresistible, such as the need for new technology, it has not been universally welcomed.

Another major change is the team members' upcoming relocation from their present inner-city offices to Greenback Manor, a large estate in the suburbs that the company already leases as its main operational base. This move will enable the company to achieve considerable savings by eliminating the need to lease separate office space for the team members.

In addition, a decision has been made to reduce secretarial services throughout the company as a result of introducing new word-processing equipment. In the past each member of the top-management team has had his or her own secretary, but now the members will be sharing secretarial services to some extent.

Greenback Manor is an elegant building in the Georgian style. It has three floors and a basement. Part of the basement has been converted into a kitchen and a dining room; the remainder is used for such services as maintenance and security.

The ground floor has a number of large rooms, including a former banquet hall and a ballroom that are now used for general-office purposes based on open-plan principles and using movable partitions as needed. The other rooms on this floor are used by department managers and section heads responsible for administrative work. The top floor consists of many small rooms that serve as offices for junior managers.

The relocated members of the top-management team and their secretaries are to be housed on the middle floor, whose former occupants have been moved either to the ground floor or top floor. As shown on the floor plan in Figure 1, there are ten rooms (1 through 6 and A through D). Rooms 1 through 6 have been earmarked for the six members of the top-management team. However, provision has been made for only four secretaries (Rooms A through D). The problem that now faces the team members concerns the allocation of rooms and of secretarial services.

Rooms 1, 2, 3, and 4 are located on the front of the building overlooking gardens and a fountain. Rooms 1 and 4 have sole access to their respective secretarial rooms, A

and C; thus, Rooms A and C would be ideal for private secretaries. Rooms 2 and 3 share access to a single secretarial room, B.

Rooms 5 and 6 are slightly smaller than Rooms 1 through 4; are at the rear of the building; and overlook the delivery area, a generator, and the parking lot. Both rooms have access to a single secretarial room, D.

Although all of the rooms on the middle floor are being refurbished and redecorated, the lease on Greenback Manor stipulates that no structural alterations to walls or doors are permitted. Similarly, no additional rooms or subdivisions may be created.

You are a member of the top-management team. You and your fellow team members will be meeting soon to reach a consensus on the allocation of the team members' rooms and secretarial services. All of you must be able to live with the final decision, and voting is not allowed.

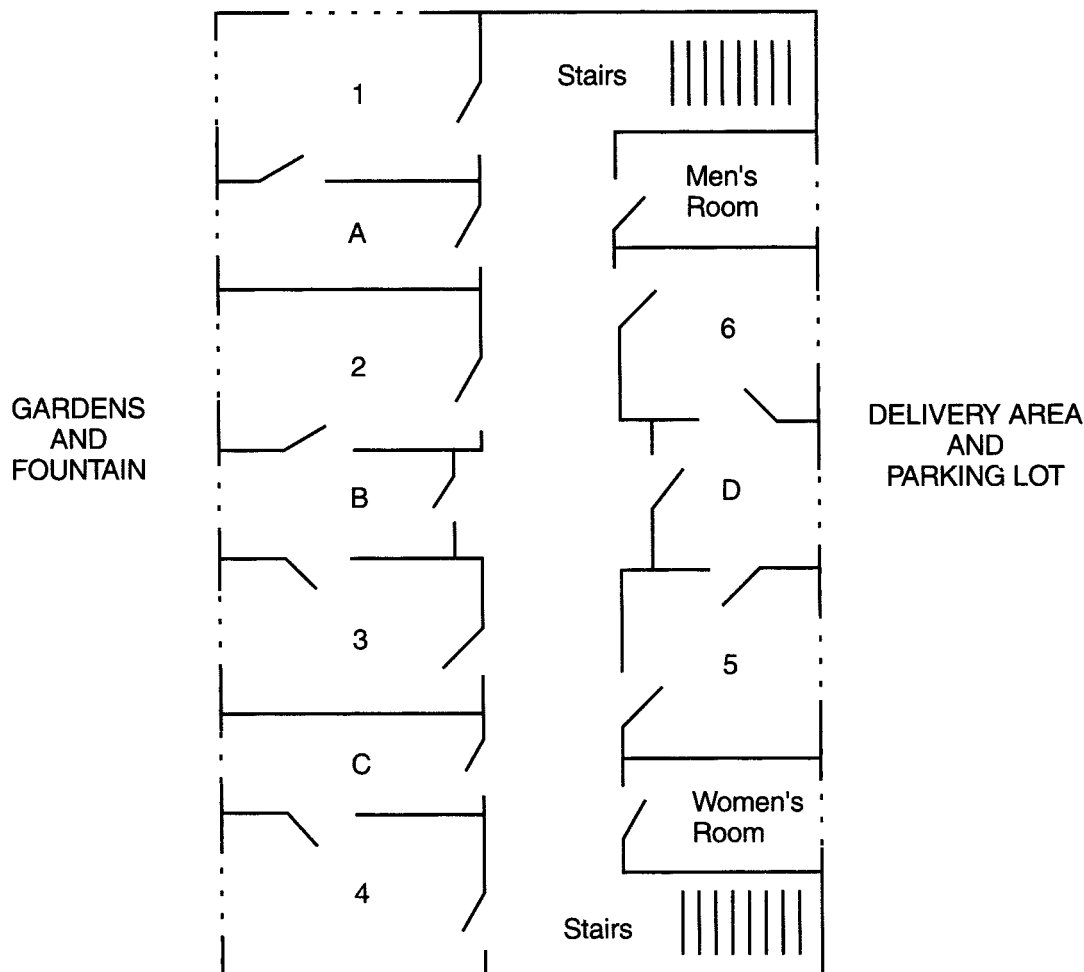


Figure 1. Floor Plan for Middle Floor, Greenback Manor

GREENBACK FINANCIAL SERVICES ROLE SHEET 1

President

You are sixty-seven years old. For the past seven years you have served the company as president on a part-time basis. You have not sought to involve yourself in the day-to-day operations of the company. Instead, you believe that your role is to oversee the company's broader strategic development and to leave the task of running the company on a daily basis to the vice presidents.

From time to time this point of view has resulted in conflict with the executive vice president and the vice president of finance, both of whom believe that the people most qualified to run Greenback are its financial specialists. For example, you have taken a particular interest in new technology and were largely responsible for promoting the former operations director to vice president of operations—and, therefore, to the top-management team—in light of that person's considerable reputation in the field of high technology. Similarly, you saw to it that the human resource development (HRD) function assumed its rightful importance within the company by making it a department with its own vice president on the top-management team. These moves have not endeared you to the executive vice president and the vice president of finance.

Although you serve on several other boards that impose time commitments, you put in an appearance at Greenback two or three days each week and feel that someone of your status and seniority should not occupy an office in the rear of the building.

You could concede that a full-time secretary might be an extravagance for a part-time director. However, you periodically entertain on behalf of the company, thereby establishing contacts at senior levels in other organizations; and on these occasions you need the assistance of a secretary.

GREENBACK FINANCIAL SERVICES ROLE SHEET 2

Executive Vice President

You are fifty-seven years old and have been in your position for five years. You are the number two person in the company, second only to the president. You are an accountant by training, and you believe that the people most qualified to run Greenback are its financial experts. Consequently, you are concerned that nonfinancial functions such as marketing and human resource development (HRD) are represented on the top-management team. You fear that the next step will be the introduction of trade unions.

Of even greater concern is the recent adoption of new technology. It is particularly distressing to you that the head of operations, who is responsible for the company's technical function, is now a vice president and a member of the top-management team. You are not only suspicious of high technology but also afraid that the accessibility of computers within the company will threaten your monopoly of knowledge about how the company is run.

Before you assumed your current position you were the vice president of finance, and the present financial vice president was your protégé. If the president, who works only part-time, can be persuaded to retire in the next three years, you would like to give up your present post and take over as president—but on a full-time basis so that you can have complete control over the way the company is run. Your natural successor would be the financial vice president, in whom you have complete trust and for whom you feel a great deal of empathy.

Room 1 would be best suited to your needs; it is bright and sunny, and you prefer to work under strong, natural light. Although you realize that other members of the top-management team may have a greater need for secretarial services, you feel that your position entitles you to a full-time, private secretary.

GREENBACK FINANCIAL SERVICES ROLE SHEET 3

Vice President of Finance

You are forty-nine years old. You assumed your present position when the former vice president of finance, your mentor, was made executive vice president five years ago. Now you see yourself as the executive vice president's heir apparent. The company has always had a financial expert at the top; after the executive vice president becomes president, you expect to be promoted and then groomed for that role yourself.

Because you spend almost all of your time in the office and because your work is extremely confidential, you cannot contemplate working in one of the smaller offices or without a permanent secretary assigned exclusively to you. Consequently, you feel that you should have either Room 1 or Room 4.

GREENBACK FINANCIAL SERVICES ROLE SHEET 4

Vice President of Marketing

You are forty-four years old and have been in your position for two years. You are ambitious and, it is said, sometimes a little aggressive. The role of marketing is becoming increasingly critical in the company as the range of services offered by financial institutions grows and the competition becomes more severe. In your opinion new services must be developed continually if the company is to ensure its long-term survival. However, you believe that this opinion is not shared by the executive vice president, who is an accountant by training, or by some of your other colleagues in top management. You do not wish to alienate the executive vice president, who will eventually succeed the president and will have an important say in nominating the next executive vice president.

You are frequently out of your office because you are obliged to travel on business. However, when you are in town, you often host meetings with important clients. This function means that you are essentially an ambassador for the company and, therefore, that you require one of the best office spaces available.

Being away so much places considerable responsibility on your secretary; consequently, you cannot contemplate having to share secretarial services. In addition, twice each year you make a business trip overseas to investigate new marketing and merchandising trends; on these occasions your secretary, who accompanies you, provides much-needed assistance.

GREENBACK FINANCIAL SERVICES ROLE SHEET 5

Vice President of Human Resource Development (HRD)

You are forty-five years old and were hired two months ago. Previously you were the vice president of personnel in a multinational pharmaceutical company.

You are the first person to hold the position of vice president of HRD at Greenback. Before your appointment your responsibilities were carried out by a person at middle-management level who reported to the vice president of finance. Representation of your function on the top-management team was intended to demonstrate the company's commitment to HRD. However, because you are new to the company you have not fully grasped the politics behind your appointment.

You do not relish the idea of an office that is small and potentially subject to the noise of the parking lot and the delivery area. Greenback is trying hard to improve its image in the eyes of its employees. To do this it is important that the HRD function be seen as receiving appropriate treatment from the company. If the vice president of HRD is given inferior accommodations, what hope can the rank and file have for fair and equitable treatment?

You feel that you must have your own secretary. You cannot see how the confidentiality of the personnel records, which must be kept in your secretary's office, could be ensured if you were forced to share a secretary. When you were interviewed for your job, you were told only that a move was planned "to a country-house location." You naturally expected the full secretarial assistance that the position of vice president merits. The present situation came as a shock to you. If this means that the company's top management is not serious about HRD, you will feel that you have made a serious career error in taking your position.

GREENBACK FINANCIAL SERVICES ROLE SHEET 6

Vice President of Operations

You are thirty-eight years old and have worked for Greenback for thirteen years. After graduating from college, you started with Greenback as a programmer. You were promoted three times—first to chief programmer, then to data processing manager, and finally to operations director—before assuming your present position as vice president of operations. Your appointment to the top-management team came as a surprise to you but reflected the growing importance of information technology to the company's operations.

You have developed a good reputation, speaking at conferences both in this country and abroad. At the time of your last promotion, you were being actively sought by recruiters for the financial industry. Despite your reputation, you feel that the vice president of finance and the executive vice president were at best lukewarm about your appointment. They seem to see the company as belonging exclusively to the financial experts.

Your view of the office allocation is simple: The computer equipment housed in your office must be protected from excessive heat and dust and the potential disturbance from the generator. Consequently, you need either Room 1 or Room 4. Also, you must have a secretary who is familiar with the technical side of your work and can on occasion operate the computer equipment, which must be wired from your office to the secretary's office.

GREENBACK FINANCIAL SERVICES OBSERVER SHEET

Instructions: During the upcoming role play you are to listen and observe carefully and answer the following questions. Later you will be asked to share your observations with the total group.

1. What issues was this team facing? What forces seemed to be driving the problem-solving process?

2. What leverage points did the team members use? How did this affect the problem-solving process?

3. How would you describe the team climate? (Was it competitive or collaborative?) How did it change throughout the process? How do you account for that change?

4. How did the team reach consensus? How would you describe that decision-making process?

■ **NOMINAL GROUP TECHNIQUE: AN APPLIED GROUP PROBLEM-SOLVING ACTIVITY**

Goals

- To increase creativity and participation in group meetings involving problem-solving and/or fact-finding tasks.
- To develop or expand perception of critical issues within problem areas.
- To identify priorities of selected issues within problems, considering the viewpoints of differently oriented groups.
- To obtain the input of many individuals without the dysfunction of unbalanced participation, which often occurs in large groups.

Group Size

Any number of subgroups of five to eight participants each.

Time Required

Two hours.

Materials

- Newsprint and felt-tipped markers for each subgroup.
- A copy of the Nominal Group Task Statement Form for each participant.
- Twenty 3" x 5" cards for each participant.
- Blank paper and a pencil for each participant.
- A copy of the Nominal Group Tally Sheet for each subgroup.
- Masking tape for posting newsprint.

Physical Setting

Subgroups are seated around tables with newsprint nearby for recording purposes.

Process

1. The facilitator states that each person's role is to contribute his or her perceptions, expertise, and experience to defining the critical issues within the problem at hand. The facilitator stresses that the theme of the experience is "problem-centering"

rather than “solution-finding.” Thus, a nominal group can be defined as one in which individuals work in the presence of others but do not interact verbally with one another except at specified times.

2. The facilitator divides the participants into subgroups of five to eight persons each. Each participant is given a copy of the Nominal Group Task Statement Form and is asked to respond in writing to the question or statement on the form. The facilitator gives an example of the kind of response desired. (This process takes about ten minutes.)
3. Without discussion, silently and independently, each participant lists on the Nominal Group Task Statement Form those facts and resources needed to deal with the question. The facilitator enforces silence by requesting that those who have stopped writing not interfere with others and that they think more deeply for other possible items. (Fifteen to twenty minutes.)
4. A volunteer in each subgroup acts as recorder for that subgroup and asks each participant in turn to present an item that that person has listed on the Nominal Group Task Statement Form. The items are recorded on the newsprint. This continues until each participant’s list has been included. Discussion of items is not allowed and no concern is given to overlap of items at this time. However, “hitchhiking” is encouraged by having members generate new ideas on their forms, based on items presented by others in the group. (Thirty minutes.)
5. Subgroups now discuss the items listed on their master sheet for purposes of clarification, elaboration, or addition of new items. Items are not to be condensed or collapsed into categories. (Fifteen minutes.)
6. Without discussion, each subgroup member selects from the master sheet and list on separate 3" x 5" cards (by name and number) the ten items he or she feels are most critical to the solution of the problem. Then each one places the ten selected issues on the table. These then are ranked by placing a “1” in the upper right corner of the card with the most important item, a “2” in the upper right corner of the card with the next most important item, and so on until all ten items selected have been ranked. (Fifteen minutes.)
7. When all members have voted, the subgroup recorder collects the 3" x 5" cards from each member, tabulates the results on the Nominal Group Tally Sheet, and shares the results with the subgroup.
8. Further discussion and clarification of the ranking of priorities are led by the recorder to ensure that all members understand what is meant by each priority. (Ten minutes.)
9. Each participant is asked to select from the master chart the ten items he or she now considers most important. Silently and independently, each participant lists these items by name and number on new 3" x 5" cards and then ranks them by numbering

(from 1 to 10) the upper right corner of the cards, as before. (Any changed opinions resulting from the previous discussion should be reflected.)

10. The ten items are then rated by having each participant assign a value of 100 to the most important priority card. Next, values between 0 and 100 are assigned to the remaining nine item-cards so as to indicate relative differences in importance between the items.
11. The rerankings and ratings are then collected and tallied by the subgroup recorder.
12. All participants meet together and the latest votes of each subgroup are reported to the entire audience. The facilitator leads a discussion and again states that the reason for the experience was to be able to understand better the critical issues of a problem area.

Variations

- A single target group or different target groups can be used to respond to the same problem (e.g., providers of services and consumers of services, etc.).
- The facilitator may wish to use one problem with a conventional interacting group and generate a set of responses, then lead into this exercise with a different problem and compare the results of the two methods in terms of number of items generated, acceptance of high-priority items by all members, etc.
- A simple listing of priorities or ranking only (instead of ratings) may be appropriate if one does not seek an understanding of the importance of priorities.

Submitted by David L. Ford, Jr. Adapted from A. Delbecq and A. Van de Ven, "A Group Process Model for Problem Identification and Program Planning," *Journal of Applied Behavioral Science*, 1971, 7, 468-491.

NOMINAL GROUP TASK STATEMENT FORM

Problem: (Example) How would you compile and produce an informational brochure on your organization?

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

NOMINAL GROUP TALLY SHEET

Item Number	Ranks Assigned by Participants	Average of Ranks
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		

■ **PACKAGE TOUR: LEADERSHIP AND CONSENSUS SEEKING**

Goals

- To demonstrate the need for consensus on group goals.
- To demonstrate leadership techniques and strategies in conducting meetings.
- To experience the impact of hidden agendas on group decision making.

Group Size

An unlimited number of subgroups of six members each. Additional participants may be used as observers.

Time Required

Approximately two hours.

Materials

- A Package Tour Leader's Instruction Sheet for each leader (and each observer, if observers are used).
- For each subgroup, six envelopes, labeled A to F, each containing one Package Tour General Instruction Sheet and one Package Tour Agent's Instruction Card.
- A copy of the Package Tour Observer Sheet for each observer.
- Newsprint and felt-tipped markers for the facilitator and for each subgroup.

Physical Setting

A room large enough so that the individual subgroups can work without being disturbed or one room in which the total group can meet and several smaller rooms in which individual subgroups can meet. A table and chairs for each subgroup.

Process

1. The facilitator forms subgroups of six members each, has them assemble at tables, and selects a leader for each subgroup. (Additional members may be assigned to subgroups as observers.) Each subgroup receives a supply of newsprint and felt-tipped markers.

2. The leaders are instructed to gather together in one area of the room, leaving their subgroups at their tables. The facilitator gives each of the leaders (and observers) a copy of the Package Tour Leader's Instruction Sheet and the Package Tour General Instruction Sheet and allows time for them to read the sheets. The facilitator then answers any questions.
3. If observers are used, the facilitator briefs them by discussing the process issues they should look for and the role of the process observer. Each observer is also given a copy of the Package Tour Observer Sheet. The observers are informed that they will present five-minute reports during the review stage.
4. The facilitator summarizes the task and gives each leader six envelopes (Package Tour Agents' Envelopes). The leader receives envelope "A" and is told to distribute the other envelopes to the remaining members of his or her subgroup. The facilitator cautions the leaders that the contents of an envelope may not be examined by anyone other than the member who receives it.
5. The subgroups are allotted fifty minutes to complete their tasks.
6. At the end of fifty minutes, the total group reassembles. Observers present their reports on process issues observed in the subgroups. The facilitator then summarizes these and identifies areas for future process planning.
7. The itinerary charts for each subgroup are displayed, and the facilitator leads a discussion on the reasons for the various subgroups' results. The participants are informed that there is no "correct" solution. The facilitator then highlights the effect that the objectives (goals) set by each subgroup had on the results achieved and discusses the effects that the hidden agendas of the members from Circusia and Eden had on the groups processes.

Variation

- If only five members are available in a group, the agent representing Eden can be asked to look after the interests of Flounce.

Submitted by Peter Mumford.

PACKAGE TOUR LEADER'S INSTRUCTION SHEET

You have called a meeting of travel agents to arrange a package tour of six countries: Abalonia (A), Bossonovia (B), Circusia (C), Dismarch (D), Eden (E), and Flounce (F). You are the agent representing Abalonia.

Travel agents will get a percentage of the total receipts for this tour, based on the following formula:

1. Order of Visit to Their Country

1	2	3	4	5	6
20%	5%	10%	15%	5%	25%

2. Time in Their Company

4 days	+10%
3 days	+ 5%
2.5 days	– 5%
2 days or less	–10%

PACKAGE TOUR GENERAL INSTRUCTION SHEET

You are a travel agent representing a country that encourages tourism. You have been asked to agree on the format for a six-country, package-tour holiday.

- Each agent has been asked by his or her government to ensure that (a) the tour stays in that country as long as possible and that (b) tourists spend the maximum amount of money in that country.
- Each country will be allowed to have one attractive feature highlighted in the brochure.
- The tour will last fourteen days.
- Four days is considered the ideal period for a tour to stay in a country.
- Tourists' maximum spending generally takes place in the first and last periods or countries visited.
- Your group has to agree on the composition of the brochure:
 1. The order of visits.
 2. The length of stay in each country.
 3. The feature of each country to be highlighted.
- The time spent traveling to each country need not be considered in this schedule.

PACKAGE TOUR AGENTS' INSTRUCTION CARDS

Envelope A

You are the travel agent from Abalonia.
Abalonia is renowned for sandy beaches and safe bathing.
Flounce is renowned for religious festivals.
Dismarch is renowned for local handicrafts.

Envelope B

You are the travel agent from Bossonovia.
Bossonovia is renowned for superb mountain scenery.
Eden is renowned for excellent wine.
Circusia is renowned for colorful local festivals.

Envelope C

You are the travel agent from Circusia.
Circusia is renowned for casinos.
Dismarch is renowned for safe, sandy beaches.
Flounce is renowned for beautiful buildings and churches.
Personal message: "You are in debt to the agent from Bossonovia. If the agent were to call in this debt you would be bankrupt."

Envelope D

You are the travel agent from Dismarch.
Dismarch is renowned for excellent hotels.
Abalonia is renowned for food and restaurants.
Bossonovia is renowned for local handicrafts.

Envelope E

You are the travel agent from Eden.
Eden is renowned for a temperate climate.
Abalonia is renowned for a sophisticated night life.
Bossonovia is renowned for splendid shopping facilities.
Personal Message: "Your government is trying to arrange a secret treaty with Flounce.
The manager of the Flounce agency is a relative of the Prime Minister of Eden."

Envelope F

You are the travel agent from Flounce.
Flounce is renowned for get-away-from-it-all secluded villages.
Circusia is renowned for hot sun.
Eden is renowned for horse racing.

PACKAGE TOUR OBSERVER SHEET

Record verbal and nonverbal behaviors, guided by the statements and questions that follow. Try to focus on the processes that emerge rather than on the content of what is said.

1. *Structure*: how the subgroup organizes to accomplish its task. What ground rules emerge? What leadership behaviors are displayed? How are decisions made? How is information treated?

2. *Climate*: the psychological atmosphere of the meeting. How are feelings (as opposed to points of view) dealt with? What nonverbal behavior indicates changes in climate? How do members' voices denote feeling tone?

3. *Facilitation*: how subgroup members influence the development of the subgroup. Does the subgroup process itself? What group-building behaviors (bringing in silent members, harmonizing conflict, reinforcing participation, etc.) are engaged in?

4. *Dysfunctions*: behaviors that hinder the accomplishment of the subgroup's task. What anti-group behaviors (blocking, recognition-seeking, dominating, withdrawing, etc.) are seen? What communication patterns develop that are dysfunctional to the subgroup?

5. *Convergence*: how the subgroup moves from independence to collective judgment. What behaviors promote agreement? What consensus-seeking behaviors are observed? What "false" consensus behaviors (such as "me too," "I'll go along with that") are displayed?

■ VACATION SCHEDULE: GROUP PROBLEM SOLVING

Goals

- To explore the advantages and disadvantages of using group decision-making procedures to resolve complex issues.
- To increase awareness of supervisory responsibilities in situations concerning decision making.

Group Size

Any number of subgroups of five members each.

Time Required

Approximately two hours.

Materials

- A copy of a different Vacation Schedule Role-Play Sheet for each group member (Supervisor, Marge, George, Annie, and Sam).
- Newsprint and a felt-tipped marker for each subgroup.

Physical Setting

A room large enough so that each subgroup can work separately, or a separate room for each subgroup.

Process

1. The facilitator informs the participants that they will be involved in a role-play situation. Each person will be supplied with information about his or her character as well as some information about the immediate situation and that, beyond the information supplied, the participants should interpret and act out the roles as they wish.
2. The facilitator divides the participants into subgroups of five members each. If there are participants left over, the ones who are not assigned roles can act as observers. Each observer is assigned to a specific subgroup.

3. The facilitator directs each subgroup to a separate location, gives each member of each subgroup one of the five different Vacation Schedule Role-Play Sheets, and allows five minutes for the members to read their sheets and prepare for the activity.
4. The facilitator announces that the subgroups have thirty minutes in which to complete the activity and tells them to begin. (Thirty minutes.)
5. The facilitator calls time and instructs the subgroups to debrief the activity by considering the following points:

- What solution was reached in each subgroup?
- Was the supervisor in each subgroup satisfied with the solution? Were the persons playing Marge, George, Annie, and Sam (individually) in each subgroup satisfied with the solution?
- How was the problem identified by the supervisor?
- What approach did the supervisor take to solving the problem, e.g., solving it alone, asking the workers to help, telling the workers to solve it?
- How did the workers feel about the supervisor's approach to the problem?

These points can be posted on newsprint. If subgroups are spread out, a separate sheet should be prepared beforehand for each subgroup. If observers have been used, they report their observations to the subgroup at this time. (Fifteen minutes.)

6. The facilitator then reassembles all the participants and leads a discussion of the learnings from the experience. The following items can be included:
 - In a situation of this type, what are the advantages and disadvantages of a supervisor's assumption of responsibility for a decision? In what situations should workers be expected to participate in and contribute to the decision-making process?
 - What group decision-making techniques are helpful?
 - What decision-making techniques are not helpful to group decision making?(Twenty minutes.)
7. The participants are instructed to generate statements of principles and guidelines for conducting such group decision-making meetings. These statements are posted on newsprint by the facilitator. (Twenty minutes.)
8. Subgroup members are then instructed to reassemble and to discuss the application of these guidelines to their back-home settings by identifying the situations in which group decision-making procedures would be appropriate. (Fifteen minutes.)

Variations

- One subgroup can role play while the remaining participants observe.
- The supervisor alone can be given role instructions. The other subgroup members can be directed to respond naturally to the situation. Processing can then focus on factors that influenced the subgroup's decision-making processes and members' behavior during the activity.

Submitted by L.B. Day and Meeky Blizzard. Adapted from American Bankers Association, *Supervisory Training Program*, 1980. Used with permission.

VACATION SCHEDULE ROLE-PLAY SHEET

Supervisor

Background: You supervise twenty people in the accounting department of a major insurance company. Vacation scheduling has always been a problem because of the increase in activity during the summer. This year, however, you developed a vacation schedule early, checked with your staff, and by March had a schedule that showed only two people out during any one week.

Next week will be an exception to your policy. Two employees, George and Annie, were already scheduled to take their vacations when another employee, Sam, transferred into your area on the condition that he could take his vacation next week as previously scheduled. Because George had already planned to take his family camping, Annie was going to her annual family reunion, and you were eager to have Sam join your staff, you decided that things would be all right, as long as nothing else came up.

1:15 p.m. Just as you were returning from lunch, Marge approached your desk with a problem. Her husband, who has been out of work for several months, has just landed a week-long job hauling goods from the next state, beginning Monday. The difficulty is that he needs her to go with him because she is the only one who knows his business operation well enough to help him on such short notice. She has not taken her vacation yet, and you know from previous conversations how important this hauling job is to their financial stability. But if Marge were gone next week, four people would be out—hardly an ideal situation for the rest of the staff.

After wrestling with the problem, you told Marge that she could go. You felt you had made a good decision; Marge always does more than her share of the work.

1:30 p.m. You received a call from Mike's wife. Mike has been out the last two days with a bad cold, but he is scheduled for a tonsillectomy Monday and will not be in next week at all. This raises the number of people out next week to five!

1:45 p.m. As you reconsidered the wisdom of letting Marge take next week off, Bryan strolled up to your desk. He had a job interview during his lunch hour and will be starting his new job Monday. Now you will be six people short this week: You shudder to think of the chaos that will result.

You are not sure how you are going to solve this problem. Can your department realistically manage next week with six people gone? If not, what are the alternatives? Should you handle this situation alone or involve others?

2:00 p.m. You have just called a meeting with George, Annie, Marge, and Sam to discuss the problem. Mike and Bryan, of course, are out of the schedule altogether. You have asked the workers to meet with you in the conference room.

VACATION SCHEDULE ROLE-PLAY SHEET

Marge

Background: It is about two o'clock on a Friday afternoon in late June. Your husband, Joe, who has not been able to locate any work for the past few months, called about an hour ago with the news that he has a week-long contract to haul goods from the next state beginning Monday, but needs you to go along with him to handle the bookkeeping and other functions. You are not scheduled to take your vacation until August. You talked to your supervisor about the situation, and your supervisor agreed to reschedule your vacation for next week.

You were elated when Joe called with the good news about the job next week. Not only have things been pretty tight financially these past few months, but this period of unemployment has really been a drain on Joe's usually optimistic outlook. Now he has a chance to earn some money, regain his self-esteem, and maybe even continue to work with this distributor. You were a bit concerned when you learned that he needed you to go with him on this run, because you know how much your absence will increase the work load in the department, and you do not want to be a burden to your friends here. But, in your mind, it is a valid, unavoidable emergency; you are the only one who knows Joe's business well enough to help him out on such short notice.

Your supervisor understands the situation and has been a real friend during the crisis of the last few months, providing financial counseling as well as moral support. To show your appreciation, you are planning to put in a couple of hours of overtime before you leave tonight, to reduce the work load a bit.

The Setting: Your supervisor has just called a brief meeting in the conference room "to talk about a problem in next week's schedule."

VACATION SCHEDULE ROLE-PLAY SHEET

George

Background: It is about two o'clock on a Friday afternoon in late June—the last day of work before your vacation, which you scheduled with your supervisor in February. You, your wife, and two children (ages eight and nine) are leaving early tomorrow morning to go camping.

The thought of your vacation next week is just about the only thing that has kept you going all week. It has been pretty hectic here, and your morale is badly in need of that rejuvenating mountain air. It seems like years since you have spent a relaxed moment with your family, and beginning early tomorrow morning the four of you will have nine days to explore the wilderness together. You were just thinking about how excited the kids were last night as you made some last-minute plans. The thought made you smile before you turned back to the mound of paperwork left to do before five o'clock.

The Setting: Your supervisor has just called a brief meeting in the conference room “to talk about a problem in next week’s schedule.”

VACATION SCHEDULE ROLE-PLAY SHEET

Annie

Background: It is about two o'clock on a Friday afternoon in late June—your last day of work before vacation, which you scheduled with your supervisor in February. You are leaving this evening to attend your seventh annual family reunion.

There are only six more hours before your plane leaves, and you can hardly wait. Years ago, when your family started this annual get-together, you looked upon it as an obligation and a chore. Now, however, your perspective has changed, and you really look forward to seeing everyone again—even your brother, who is quite a bore until you get to know him. And this year the reunion will be special because your sister and her family will be there after spending three years in Sweden. You hope her superb wit has not changed; it has been such a long time since the two of you have had a good laugh together.

You just hope that things will not be as busy at work when you get back. The recent work load has been unreal!

The Setting: Your supervisor has just called a brief meeting in the conference room “to talk about a problem in next week’s schedule.”

VACATION SCHEDULE ROLE-PLAY SHEET

Sam

Background: It is about two o'clock on a Friday afternoon in late June. You are the newest employee in this work group, having joined the department a month ago. Your vacation, due to begin Monday morning, was originally scheduled with your old supervisor in March. When you applied for this position, you were told that you could keep the same vacation week although it would stretch the normal policy a bit. You plan to spend your vacation at a nearby lake with some friends. You are looking forward to it.

You were told that this new job would be a challenge, and nobody was kidding you! You thought that after a month in this department you would be feeling at least somewhat knowledgeable about your new job, but sometimes trying to learn everything at once is overwhelming. You sure need a break, or maybe even a transfer back to your old area, where you were the resident expert. Although it was boring sometimes, right now you would gladly trade some boredom for a lot of frustration. On the other hand, your new supervisor was really pleased to have someone with your background here and indicated that there was a lot of room for advancement.

You have decided to spend some time during your next week at the lake to think about what you want to do.

The Setting: Your supervisor has just called a brief meeting in the conference room "to talk about a problem in next week's schedule."

■ THE REAL MEANING: CREATIVE PROBLEM SOLVING

Goals

- To encourage participants to think creatively.
- To help participants identify ways to stimulate creativity.
- To help participants find methods for obtaining creative solutions to problems.

Group Size

Two to twelve subgroups of three participants each. (One or two subgroups can contain four participants.)

Time Required

One and one-half hours to two and one-half hours, depending on the size of the group.

Materials

- A copy of The Real Meaning Problem Sheet for each participant.
- A clipboard or other portable writing surface for each participant.
- A pencil and a blank sheet of paper for each participant.
- A newsprint flip chart and a felt-tipped marker for the facilitator.
- Two sheets of newsprint and a felt-tipped marker for each subgroup.
- Masking tape for posting newsprint.

Physical Setting

A room with movable chairs. The room must be large enough to allow subgroups to work without disturbing one another.

Process

1. The following is a sufficient explanation for the activity:
“It is often difficult to understand exactly what an author means by a certain phrase, even when we read it within the context of the book or article; and it is even more difficult to determine what an author means when a statement is taken *out* of context. But I am sure you are up to this challenge.

“We are going to have a contest. You will be divided into subgroups that will compete with one another. You will be given a list of statements, and each subgroup will choose four statements and decide on the most likely meaning of each statement. Each subgroup will write its answers on newsprint. The subgroup that has the highest number of points wins.”

(Five minutes.)

2. The participants are asked to form subgroups of three members each. If necessary, one or more subgroups of four members may be formed. Each subgroup is instructed to select a spokesperson to report the answers.
3. The facilitator distributes The Real Meaning Problem Sheet and reviews the instructions with the participants. The facilitator explains that “consensus” does not necessarily mean “unanimous agreement,” but that—in this case—it means that all members of a subgroup prefer to accept a solution in an attempt to gain points for the subgroup. (Five minutes.)
4. The portable writing surfaces, pencils, blank paper, newsprint, and felt-tipped markers are distributed to the subgroups.
5. The facilitator tells the participants they will have thirty minutes to work on the activity and that they will be apprised of the time after ten minutes and twenty minutes. The facilitator gives them a signal to start and then moves from one subgroup to another to observe the process. The facilitator gives no help during the activity except to clarify the instructions. (Ten minutes.)
6. The facilitator interrupts the process to tell participants that they have been working ten minutes. The subgroups then continue the process. (Ten minutes.)
7. The facilitator interrupts to tell the participants that they have ten minutes left to work. The subgroups then continue. (Ten minutes.)
8. The facilitator calls time and reconvenes the entire group. Each spokesperson posts the newsprint from his or her subgroup and reads the answers. After all answers are read, the facilitator tells the participants that they will have a group discussion before the winners are announced. (Five minutes per subgroup.)
9. The facilitator explains the goals of the activity and leads a group discussion based on the following questions:
 - What processes did you use in generating the meaning of your first statement? How did they seem to work? How difficult was it to develop a meaning for the statement? What was difficult? What was easy?
 - What different processes did you use with your other statements? Which processes seemed to stimulate discussion and new ideas? Why?
 - In what ways did the competitive element help or hinder you in generating meanings?

- How can the processes you used help you to find creative alternatives and solutions in your work situations? What can you do to make sure you try these processes in your work situations?
- How can you encourage one another to continue to work on processes to find creative solutions?

(Twenty to thirty minutes, depending on the size of the group.)

10. Before calculating the scores, the facilitator asks volunteers to comment on meanings that they are especially proud of.
11. The facilitator assigns points to each subgroup's answers, basing the points solely on whether the answer was a consensus decision (five points), a majority decision (three points), or an individual decision (one point). If a subgroup reached consensus on all four statements that it selected, it will also be given one point for each additional consensus decision it reached on the remaining four statements. The facilitator totals the points for each subgroup and announces the subgroup or subgroups with the highest score. The facilitator leads the applause for the winners. (Five minutes.)
12. The facilitator then announces that all participants are "winners" in this activity because they discovered creative solutions—and creativity is a prize to treasure and to use the rest of their lives. The facilitator explains that the author wrote the statements specifically for this type of activity in order to inspire people to think creatively; the author had no one interpretation in mind. Therefore each meaning is significant to the subgroup that developed it.
13. The facilitator encourages participants to express how they feel about the activity and how they would change it to increase creativity in problem solving. (Fifteen minutes.)

Variations

- The facilitator can show an actual prize (such as a box of candy) that will be given to the winning subgroup.
- Participants or subgroups can develop their own statements and give them to another subgroup to generate meanings.

Submitted by Mary Harper Kitzmiller.

THE REAL MEANING PROBLEM SHEET

Instructions: The object of this activity is to determine the most likely meaning of four of the eight statements listed below. Your subgroup must decide which four you want to tackle. None of these statements is any easier or harder to decipher than the others are, so choose the ones that look most interesting to you. (Remember, the quicker you make your selections, the more time you will have for the main task.) You will have thirty minutes for this activity. The facilitator will keep you apprised of the time.

Try to reach consensus on your answers and write them down on the newsprint. An acceptable subgroup answer will receive five points. If you cannot reach consensus within a reasonable time, write down your individual answers on the newsprint and mark each with an asterisk. An acceptable individual answer will receive one point for the subgroup. If the majority of members of your subgroup agrees on an answer that is acceptable, your subgroup will receive three points. Mark these answers with two asterisks.

If you reach consensus on meanings of all four statements in less than thirty minutes, work on additional statements for extra credit. Your subgroup can receive one point by reaching consensus on an acceptable answer for any of the remaining statements. Therefore, the highest score possible for this activity is twenty-four (five points each for four answers and one point each for the remaining four answers).

What is the meaning of each of the following statements?

1. All good things go together.
2. There is never space for mirth nor treasure.
3. If time were fixed, we could ascend.
4. The person is the portrait.
5. An introduction is like a house.
6. Was there ever a day when fruit ripened on bare trees?
7. The value of an asset depends on the angle of the moon.
8. The fifth well will quench your thirst.

■ DEPARTMENTAL DILEMMA: SHARED DECISION MAKING

Goals

- To increase the participants' awareness of the process and skills involved in shared decision making.
- To allow the participants to experience shared decision making as a means of conflict management.

Group Size

An unlimited number of subgroups of eight participants each.

Time Required

Approximately three hours.

Materials

- A copy of the Departmental Dilemma Case-Study Sheet for each participant.
- One set of Departmental Dilemma Role Sheets 1 through 8 for each subgroup (a different role sheet for each member of the subgroup).
- A newsprint flip chart and a felt-tipped marker or a chalkboard and chalk.
- Blank paper and a pencil for each spokesperson.
- A clipboard or other portable writing surface for each spokesperson.

Physical Setting

A large room in which the individual subgroups can work without disturbing one another. If the facilitator wishes to encourage a more independent approach to learning or is not able to observe all subgroups at all times, each subgroup may complete step 2 on its own in a setting of its choice.

Process

1. The facilitator forms groups of eight participants each. Copies of the Departmental Dilemma Case-Study Sheet are distributed, and it is explained that each subgroup will be dealing with the problem inherent in the case study. After the participants have read the handout, the facilitator distributes copies of the role sheets, ensuring

that each member of the subgroup is given a different sheet. Then the participants are asked to study their roles. (Fifteen minutes.)

2. The facilitator writes the following questions on newsprint or a chalkboard, explaining that these questions are to form the basis of the upcoming meetings.
 - How do the various members feel about shared decision making? What are its advantages? its drawbacks?
 - How has the issue of shared decision making affected the department?
 - What conflicts are being experienced by the members?
 - What can be done to resolve these conflicts?
 - How might the conflicts have been avoided?

Each subgroup is instructed to answer these questions and to select a spokesperson to record answers and to report them later to the total group. Blank paper, a pencil, and a clipboard or other portable writing surface are given to each subgroup for the spokesperson's use. In addition, the facilitator emphasizes that each participant must maintain his or her assigned role while completing this task. Then the subgroups are informed that their time limit is one hour and are asked to begin the role play.

3. After the hour has passed, the facilitator stops the role plays and reconvenes the entire group. The spokespersons are invited to share the results of the previous step. Then the facilitator leads a total-group discussion by asking the following questions:
 - What were your feelings while playing your role? What did you want to do?
 - How did you react to the other roles? How did you want to change them?
 - What would you predict as the future for Department X if nothing changes?
 - How can you apply the experiences of Department X to your back-home situation?

(Forty minutes.)

4. The participants are asked to reassemble into their subgroups and to build on what they have learned in order to develop principles of shared decision making. The facilitator specifies that these principles should be ones that allow shared decision making to be an ongoing process. The spokespersons are instructed to record these principles so that they can be shared later with the total group. (Twenty minutes.)
5. The total group is reconvened, and the spokespersons are asked to share the principles recommended by their subgroups. Then the facilitator leads a discussion on the effectiveness of these principles.

Variations

- In step 2 one subgroup may enact the role play for the remaining participants, who act as observers.

- During step 3 the facilitator may instruct the members of each subgroup to reach a consensus regarding the conflicts inherent in the case and to write a report in which they outline their recommendations and implementation strategy. After all reports have been completed, the facilitator asks the subgroups to share their experiences while working on this task and to explain the contributions made by each member.
- Issues involving leadership may be emphasized.

Submitted by Janet H. Stevenson.

DEPARTMENTAL DILEMMA CASE-STUDY SHEET

Medway Research Associates is a company funded by the government to conduct research in a variety of areas. There are many departments in the company, with seven to fifty members in each. Most of these departments function in a participative, democratic fashion. Members in a department decide what role the chairperson will play and what his or her duties and those of committees within the department will be. Such duties are referred to as “operating procedures” and are approved by each department in a meeting attended by all members. Approval is granted by majority vote, and all members, including the chairperson, have equal input. In addition, there are regular meetings at which matters concerning the department are presented and discussed.

The problem at hand concerns Department X, which has no formal operating procedures. The chairperson of Department X, Lee Todd, is in the third year of a five-year contract. During this term Lee has introduced many good changes, some of which incorporated the input of other department members and some of which were simply announced.

When Lee first became chairperson, department members were told that the policy would be for Lee to make all decisions until the researchers indicated a willingness to participate in the decision-making process. However, Lee clearly was interested in member participation, declared an open-door policy concerning complaints and suggestions, but preferred to deal with people on an individual basis rather than in meetings. In addition, Lee encouraged the researchers to pursue avenues of personal and professional development.

Although Lee promised to call a department meeting whenever anyone wanted one, thus far, meetings have been held only for the presentation or discussion of important issues. There is little participation at these meetings; many members have tried to participate, but their ideas have been passed by when Lee has not liked them.

Terry, one of the researchers, has worked closely with Lee in the past three years. Lee has used the ideas Terry has generated and has been publicly appreciative of these contributions. Terry has felt free to generate discussion, suggestions, and criticisms. Recently Lee publicly expressed the wish that others would follow suit. At that time Terry suggested a department meeting to discuss the possibility of instituting shared decision making as a standard policy. Lee became defensive and rather antagonistic when presented with this request, but finally acceded.

The meeting is to take place in a few minutes.

DEPARTMENTAL DILEMMA ROLE SHEET 1

Lee

For three years you have worked very hard as chairperson of your department. You like to control; essentially, you disdain the administrative pattern of other departments and prefer to work with your researchers on a one-to-one basis. Although you are basically a pleasant person and are concerned about the progress of department meetings, you are rather nervous and lacking in social ease; consequently, you communicate only what you feel is necessary for the employees to know, and you are often seen as brusque.

You are aware that your policies and behavior may seem contradictory to the researchers, but you want to avoid discussing this contradiction if the subject arises during the upcoming meeting.

Do not show this role sheet to anyone.

DEPARTMENTAL DILEMMA ROLE SHEET 2

Terry

Not only are you a good worker and experienced in your job, you are also helpful, fair minded, and interested in sharing the work load. You have good ideas and are willing to stand up for your beliefs both privately and publicly. Furthermore, you are friendly and you have a high concern for people, especially for those in your department. You want the department to develop in a positive way, and you are also interested in shared decision making as a means for accomplishing this development.

Your fellow department members frequently tell you that they wish Lee were as receptive to their ideas as to your own. You plan to broach this subject in the meeting, despite your concern that Lee may see you as disruptive for doing so. In fact, you intend to hold Lee to the promise about welcoming shared decision making.

Do not show this role sheet to anyone.

DEPARTMENTAL DILEMMA ROLE SHEET 3

Chris

You have been a Medway employee longer than anyone else in the department, and you have a permanent contract with the company. You are friendly, well liked, and a good worker.

You have accepted many changes in the past few years in the department, some willingly and others unwillingly. Although you are vocal with your fellow researchers and frequently express complaints in private, “let-off-steam” sessions, you are not this way when Lee is present; in fact, you rarely speak at department meetings. In essence, you are not interested in shared decision making if it involves more work or any confrontation; you simply want to do your job and go home.

Do not show this role sheet to anyone.

DEPARTMENTAL DILEMMA ROLE SHEET 4

Pat

You have a permanent contract with Medway. You are fair minded, pleasant, and a good worker. You have been very quiet until recently, when you have become more vocal with your fellow researchers. Although some of the other department members have encouraged you to stand up to Lee, you are neither willing nor able to do so. When the crunch comes, you always back down; you cannot stand the pressure of departmental unrest and will do anything to avoid it. However, you are moderately interested in shared decision making because you think it would be best for the department, especially since most other departments function in this way.

You wonder what will happen in the upcoming department meeting.

Do not show this role sheet to anyone.

DEPARTMENTAL DILEMMA ROLE SHEET 5

K.C.

You have been a researcher at Medway for three years. You are very vocal with the other researchers, to whom you have expressed confusion and annoyance with regard to Lee's actions; however, you say virtually nothing at department meetings and can be completely overpowered by Lee. The other researchers like you very much and are rather protective of you because they see you as vulnerable; they also are concerned about how you may be affected if issues become "hot" in the department because you cannot function under any pressure whatsoever.

In spite of the fact that you are easily intimidated professionally, you do an excellent job. Shared decision making interests you; you have confessed a lack of skills in this area, but you are willing to learn these skills and to try. You are glad that Terry requested the upcoming meeting.

Do not show this role sheet to anyone.

DEPARTMENTAL DILEMMA ROLE SHEET 6

Dale

You are a good worker and you have good ideas. Although you are quite vocal in department meetings and will support others if you agree with them, at times you are unsure of yourself; therefore, you are not as strong in your stand on various issues as you might be. You are well liked, concerned about others, and interested in shared decision making.

You are annoyed by Lee's inability to deal with people better, and you hope that the upcoming meeting will be a first step toward improving relations between Lee and the other department members.

Do not show this role sheet to anyone.

DEPARTMENTAL DILEMMA ROLE SHEET 7

Kelly

You have been a researcher at Medway for only two years. You are outgoing and well liked by everyone. In addition, you are fair minded, enthusiastic about sharing the work load, and interested in shared decision making. Although you have good ideas and want to express them and to stand up for yourself during department meetings, you feel that Lee would find this behavior unacceptable. In the course of one department meeting, you brought up a policy suggestion to which Lee objected, and later were told in private that “controversial issues” should be channeled through Lee before being raised in department meetings.

You plan to be cautious during the upcoming meeting unless someone else confronts Lee about contradictory policies. If such confrontation occurs, you will speak up on the subject.

Do not show this role sheet to anyone.

DEPARTMENTAL DILEMMA ROLE SHEET 8

Jackie

You are a new, inexperienced researcher. You are friendly and pleasant, but silent; you have revealed no interests, strengths, or viewpoints with regard to any of the issues raised in your presence. You plan to keep quiet but pay close attention during the upcoming meeting.

Do not show this role sheet to anyone.

■ PBJ CORPORATION: USING IDEA-GENERATING TOOLS

Goals

- To acquaint participants with two idea-generating tools often used by groups during problem solving: brainstorming and the nominal group technique.
- To offer the participants an opportunity to practice using these tools by applying them to a case-study problem.

Group Size

Two to five subgroups of four to seven members each.

Time Required

One hour and thirty minutes to one hour and forty minutes.

Materials

- A copy of the PBJ Corporation Information and Task Sheet for each participant.
- Blank paper and a pencil for each participant.
- A newsprint flip chart and a felt-tipped marker for each subgroup.
- A roll of masking tape for each subgroup (for posting newsprint).

Physical Setting

A room large enough so that the subgroups can work without disturbing one another. (The subgroups should be placed as far apart as possible.) Each subgroup should have a table, movable chairs, and access to plenty of wall space for posting newsprint.

Process

1. The facilitator explains that the activity will concentrate on two ways of generating ideas during the process of group problem solving. Each participant is given a copy of the PBJ Corporation Information and Task Sheet and is instructed to read the handout. (Five to ten minutes.)
2. The facilitator elicits and answers questions about the task, ensuring that the participants understand how to use brainstorming and the nominal group technique. (Ten minutes.)

- 3 The participants are asked to form approximately equal-sized subgroups. Each subgroup is assigned to its own table and is given a newsprint flip chart, a felt-tipped marker, and a roll of masking tape. In addition, each participant is given blank paper and a pencil. (Five minutes.)
4. The facilitator tells the subgroups that they have forty minutes to complete the task, suggests that they spend approximately ten minutes on each factor (Methods, Personnel, Materials, and Machinery), and asks them to begin. The facilitator remains available while the subgroups work to provide any needed clarification or assistance. Also, the facilitator reminds the subgroups of the remaining time at ten-minute intervals. (Forty minutes.)
5. After forty minutes the facilitator calls time and asks the members of each subgroup to spend ten minutes identifying the idea they like best in each category (Methods, Personnel, Materials, and Machinery) and selecting a spokesperson to share those four ideas with the total group. (Ten minutes.)
6. The facilitator reassembles the total group and asks the spokespersons to take turns reporting ideas. (Five minutes.)
7. The facilitator leads a concluding discussion by asking the following questions:
 - What were your reactions to the two tools, brainstorming and the nominal group technique?
 - What were the advantages and disadvantages of brainstorming? What were the advantages and disadvantages of the nominal group technique? Which tool did you prefer and why?
 - How would the task have been different if you had not been given the four categories of Methods, Personnel, Materials, and Machinery? What can you learn from that?
 - What have you learned about the tools of brainstorming and the nominal group technique as an aid to problem solving?
 - How might you use these tools in your own work group? What benefits might your group derive from them?(Fifteen to twenty minutes.)

Variations

- The time for using brainstorming and the nominal group technique may be cut from forty to twenty minutes, five minutes per category (Methods, Personnel, Materials, Machinery).
- The facilitator may give the four categories (Methods, Personnel, Materials, Machinery) to only half of the subgroups. Then the processing may include a question

about the differences in the task for those who were given the categories and those who were not.

- If the activity is used with ongoing teams, after the last step each team may be asked to generate its own case using the same four categories (Methods, Personnel, Materials, and Machinery) and applying the tools of brainstorming and the nominal group technique.

Submitted by Phil Ventresca and Tom Flynn.

PBJ CORPORATION INFORMATION AND TASK SHEET

The Situation

You are part of a management team for the PBJ Corporation, which produces peanut butter and jelly sandwiches. One of PBJ's largest customers is MegaSnack, a company that supplies hundreds of vending machines across the city.

A number of businesses that rent MegaSnack's machines have reported that customers are dissatisfied with "too little peanut butter" on the sandwiches. Consequently, MegaSnack is unhappy with PBJ's current performance and has announced that it will look for another supplier if PBJ cannot rectify the situation.

You and your fellow managers have been tasked with determining possible reasons *why so many sandwiches have less peanut butter than MegaSnack has specified they should*. Later a task force will investigate these possible reasons and recommend actions to solve the problem.

MegaSnack's Specifications

Here are the specifications that MegaSnack has given PBJ to use for each sandwich:

- White bread, two 1.0-ounce slices per sandwich;
- Grape jelly, 1.0 ounce per sandwich;
- Smooth peanut butter, 1.0 ounce per sandwich; and
- Total sandwich weight 4.0 ounces, +/-0.25-ounce variance.

PBJ'S Process for Making Sandwiches

The white bread is purchased from a vendor that slices to exact weight specifications of 1.0 ounce per slice. The weight of the bread is checked randomly at delivery; so far weight variance has been extremely rare and virtually insignificant.

The bread is set up on the assembly line so that sandwiches can be made. A tube dispenser system applies jelly in a 1.0-ounce amount to every other slice of bread on the assembly line (one slice has jelly, the next one does not, and so on). Each application is weighed electronically by computer and automatically ejected. The dispenser system is checked for calibration hourly and tuned daily.

After the application of jelly, the bread continues down the assembly line. Numerous on-site checks have shown that each sandwich meets MegaSnack's weight specifications up to the point at which peanut butter is added. Peanut butter in the amount of 1.0 ounce is applied and spread manually to each slice of bread that has not had jelly added. (A number of automatic machine tubes have been tried for dispensing and spreading the peanut butter, but all have had a tendency to clog and have been abandoned.)

Due to equipment restrictions, the weight of the peanut butter is not checked until after the peanut butter has been applied to the bread. The 1.0-ounce spoons used to measure the peanut butter are made to PBJ's specifications by a number of suppliers. With each application each spoon is first leveled with a knife and then scraped clean.

After the peanut butter has been spread, the slices of bread with jelly and the slices with peanut butter are put together manually to form sandwiches. Then each completed sandwich is weighed. MegaSnack has allowed for a total sandwich weight variance of 0.25 ounce, but PBJ's sandwiches are frequently 0.20 ounce underweight, with all of the variance attributable to peanut butter.

Organizing for the Task

You and your fellow managers are to come up with four newsprint lists of ideas, each list covering one of the major factors affecting this process problem: *Methods*, *Personnel*, *Materials*, and *Machinery*. If you think other factors might be affecting the process in addition to these four, create lists for them as well.

To create your lists for the factors of *Methods* and *Personnel*, use the idea-generating tool known as "brainstorming." To create your lists for *Materials* and *Machinery*, use a different idea-generating tool known as the "nominal group technique." Descriptions of these techniques follow.

Brainstorming generates a large number of ideas quickly by encouraging people to build on one another's thoughts:

- Clarify the objective.
- Call out ideas in turn around the group (one idea per person per turn).
- Record each idea on a flip chart.
- Build on and expand the ideas of others.
- Pass when an idea does not come quickly to mind.
- Resist stopping when ideas slow down.
- After all ideas have been exhausted, clarify each idea and eliminate exact duplicates.
- Categorize similar ideas.

Nominal Group Technique generates a large number of ideas by encouraging people to create lists independently and then share list contents:

- Clarify the objective.
- Have each person list as many ideas as possible.
- Take turns sharing the contents of individual lists, one idea at a time. If someone has already mentioned an idea, the person reading skips that idea and goes to the next.

- Record each idea on a flip chart.
- When a person's list is exhausted, he or she passes or contributes a new idea.
- After all ideas have been listed, clarify each idea and eliminate exact duplicates.
- Categorize similar ideas.

■ **BROKEN TRIANGLES: EXPERIMENTING WITH GROUP PROBLEM SOLVING**

Goals

- To offer participants an opportunity to experience some of the elements of cooperation in solving a group problem.
- To develop participants' awareness of behaviors that may obstruct or contribute to the solution of a group problem.
- To allow the participants to experience how the completion of a group task is affected by behavioral restrictions.

Group Size

As many as six subgroups of five participants each. If the total group is not divisible by five, one to four participants may be assigned to help the facilitator monitor the activity.

Time Required

Approximately forty-five minutes.

Materials

- One set of broken triangles for each subgroup (prepared in advance; see the Broken Triangles Preparation Sheet for the Facilitator).
- One copy of the Broken Triangles Instruction Sheet for each participant.

Physical Setting

A room large enough for the subgroups to work without being able to see the other subgroups' puzzles. Each subgroup needs a table with five chairs.

Process

1. The facilitator forms subgroups of five participants each and, if applicable, asks the remaining participants to help monitor compliance to the restrictions listed on the instruction sheet. Each subgroup selects one of its members to be captain.
2. Each participant is given a copy of the Broken Triangles Instruction Sheet. The facilitator reads the handout aloud, eliciting and answering questions and ensuring that everyone understands the instructions. (Five minutes.)

3. A set of broken triangles is given to each subgroup captain. The facilitator asks the captains to leave the bags unopened until the signal to begin work is given.
4. The facilitator asks the subgroups to begin. It is important that the facilitator and participant monitors closely observe the process during this activity. Attention should be called to anyone disobeying the rules, and the entire group should be reminded of the specific rule that was broken. (Twenty minutes.)
5. When the last subgroup has completed the task, the facilitator reconvenes the total group and leads a discussion by asking questions such as the following:
 - How focused were you on your subgroup's task, as opposed to completing your own puzzle?
 - Under what conditions were you willing to give up pieces of a finished puzzle? How did you feel about giving pieces away?
 - Which of your behaviors helped you complete the task? Which of your behaviors hindered you?
 - How did you feel about the restrictions imposed on you? How did these restrictions affect your performance? What did you do to overcome those restrictions?
 - Why did some people break the rules? What was the effect of calling attention to those who broke the rules?
 - At work, what kinds of rules and restrictions hinder you and your work group in communicating, solving problems, and achieving goals? What do you do to get past those rules and restrictions?
 - What did you learn during this activity about communicating and cooperating to solve a group problem when restrictions are imposed? What can you do in the future to improve your performance despite restrictions?

(Fifteen to twenty minutes.)

Variations

- Ten-person subgroups may be formed, with two duplicate sets of five triangles each distributed. Subgroups of six to nine members may also be formed; in this case, a broken-triangle set with one triangle for each person would be prepared, with as many duplications of the five triangles as necessary.
- When some subgroups have completed their puzzles and others are still working, the facilitator may convene a "consultant group" from those who have finished and ask these participants to come up with one piece of advice for those who are still working. The "consultants" then observe the effect of that advice on the working subgroups. After ten minutes, if all subgroups still have not finished, the consultants may volunteer a second piece of advice. Again, they should observe the effects.

- Extra participants may be assigned to be observers. Or the participants may be assembled into six-member subgroups so that every subgroup has an observer.
- The activity may be conducted with ongoing teams.

Submitted by Janet Mills.

BROKEN TRIANGLES PREPARATION SHEET FOR THE FACILITATOR

A set of “broken triangles” is to be given to each subgroup. This set consists of five bundles of poster-board puzzle pieces. Each bundle contains three pieces of the puzzle, and these three pieces are paper clipped together. Each of the five bundles is stored in a sandwich-size, resealable plastic bag. When properly arranged, the puzzle pieces in the set will form five triangles of equal size and shape.

To prepare a set, cut out five squares of poster board, each exactly six inches square. (All five squares of the set must be from the same color of poster board.) Find the midpoint of one side of a square, and create an isosceles triangle (a triangle with two equal sides) by drawing a light line from the midpoint to each of the opposite corners of the square (see Figure 1). Repeat this process for the other four squares. Then cut out all of the triangles. Save the triangles and discard the cutaway pieces of the squares.

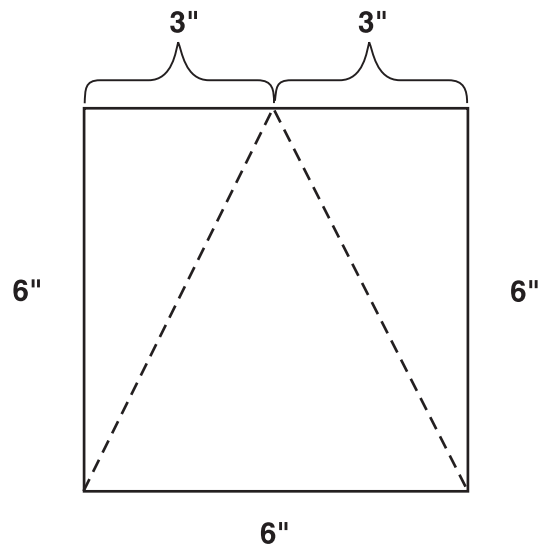


Figure 1. Making an Isosceles Triangle from a Square

Lightly draw lines on each triangle as indicated in Figure 2, and cut on those lines. (Do not reproduce the letters shown in Figure 2; these are for your information only.) The five pieces marked “A” must be exactly the same size. Similarly, the two pieces marked “B” must be exactly the same size, and the two marked “E” must be the same size. Several combinations of puzzle pieces will form one or two triangles, but only one combination will form all five triangles.

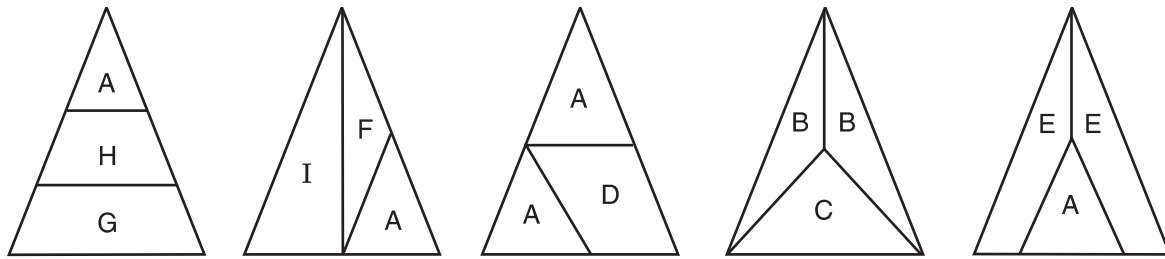


Figure 2. Creating the Final Puzzle Pieces

Repeat the entire process to make as many sets as there will be subgroups. Although all pieces of a set must be made from the same color of poster board, each set should be made from a different color. This precaution will keep pieces from the various sets from getting mixed up.

Into each sandwich-size, resealable plastic bag, place the following bundles of puzzle pieces, paper clipped together:

Bundle 1: A, A, A

Bundle 2: A, A, C

Bundle 3: B, D, E

Bundle 4: F, H, E

Bundle 5: G, B, I

BROKEN TRIANGLES INSTRUCTION SHEET

Your subgroup captain will be given a plastic bag that contains a set of puzzle pieces for forming five triangles. Your captain then will give you and each of the other subgroup members three pieces, paper-clipped together. The three pieces you receive belong to you; you alone will decide whether or not to give any of your pieces to other members of your subgroup.

When the facilitator gives the signal to begin, you and your fellow subgroup members will begin the task of forming *five triangles of equal size and shape*.

The following restrictions are imposed during this activity:

1. There is to be no *verbal* communication of any kind.
2. There is to be no nonverbal communication: no begging, pointing, staring, or emotional displays.
3. Each member must complete a puzzle of his or her own. The members may not create a central communal space for constructing puzzles together.
4. A member may pass only one puzzle piece at a time to another member.
5. Each member must keep at least one puzzle piece at all times.

■ ROOM 703: INFORMATION SHARING

Goals

- To explore the effects of collaboration and competition in group problem solving.
- To study how task-relevant information is shared within a work group.
- To observe group strategies for problem solving.

Group Size

Up to five subgroups of six.

Time Required

Thirty to forty-five minutes.

Materials

- A set of six Room 703 Basic Information Cards for each subgroup. Each card is coded by the number of dots (from one to six) following the first sentence on the card. Each of the six cards contains different data from the other cards.
- Paper and a pencil for each participant.
- Masking tape.

Physical Setting

A room large enough for the subgroups to work without influencing one another.

Process

1. The facilitator distributes a set of Room 703 Basic Information Cards to each subgroup, one card to each member. Three minutes are allowed for members to study the information.
2. Subgroups are instructed to begin working. (Twenty minutes.)
3. When there is agreement within a subgroup that the solution has been reached, the members discuss how it organized to accomplish its task.
4. The facilitator elicits comments from each of the subgroups on its problem-solving process.

5. The facilitator calls for each subgroup's solution and then announces the correct solution. The answer chart may be posted and the participants informed that the solution can be reached by:

- Making a blank chart similar to the one displayed.
- Filling in the names of the teachers who are known to be in certain rooms during certain class periods from information provided on the Room 703 Basic Information Cards. (This process is aided by using the clues to make one list of teachers and another list of aides, in order to differentiate between the two.)
- Using deductive reasoning to fill in the names of other teachers in each of the spaces, so that each teacher is in a different room during each of the four periods.

		Periods			
		1	2	3	4
Rooms	700	Mr. Jones	Mr. Lee	Ms. Martin	Mr. Jacobs
	701	Mr. Jacobs	Ms. Martin	Mr. Lee	Mr. Jones
	702	Ms. Martin	Mr. Jones	Mr. Jacobs	Mr. Lee
	703	Mr. Lee	Mr. Jacobs	Mr. Jones	Ms. Martin

6. The facilitator presents a lecturette on the concept of shared information and leadership.

Variations

- The problem can be made more difficult by adding more irrelevant information.
- The Room 703 Basic Information Cards can be rewritten to contain material more specific to the particular participant group. The formula is simple: Begin at the end, with a correct solution and apportion data to participants so that each has a critical piece of information as well as common knowledge.
- Additional participants can be accommodated within the groups by duplicating information cards. For example, if there are eight members, two participants receive the card with one period at the end of the first sentence, and two receive the card with two periods.
- The problem-solving phase can be interrupted several times for processing. Participants can be instructed to rate their confidence in the correctness of the solution and their satisfaction with the work style of the group.

- The facilitator may give any of the following hints:
 - “Discover who the educational aides are.”
 - “Discover who the teachers are.”
 - “Deductive reasoning should be applied to the problem.”

Submitted by John R. Joachim.

ROOM 703 BASIC INFORMATION CARDS

You may tell your subgroup what is on this card, but do not pass it around for others to read.

Information:

Room 701 has Mr. Lee for a teacher during the third period.

Mr. Jones and Ms. Carr do not get along well, so they do not work together.

During the first period, the team leader, whom Harry likes, teaches in room 702.

You may tell your subgroup what is on this card, but do not pass it around for others to read..

Information:

All teachers teach at the same time and exchange groups at the end of each period.

Each teacher likes a different group best. During the second period, each teacher teaches the group he or she likes best.

Each teacher teaches each group during one of the first four periods of the day.

You may tell your subgroup what is on this card, but do not pass it around for others to read...

Information:

The Robert E. Lucas Intermediate School has two teachers' aides, four teachers, and four groups of students.

Ms. Martin is the team leader for the Intermediate Unit.

Mr. Lee likes to work with room 700.

Mr. Jones teaches room 701 during the fourth period but he likes room 702 best.

You may tell your subgroup what is on this card, but do not pass it around for others to read....

Information:

Your subgroup members have all the information needed to find the answer to the following question:

In what sequence are the teachers (by name) in room 703 during the first four periods?

Only one answer is correct and you can prove it.

Some of the information your subgroup has is irrelevant and will not help to solve this problem.

You may tell your subgroup what is on this card, but do not pass it around for others to read.....

Information:

Ms. Carr and Mr. Jacobs disagree about how it would be best to handle room 702, in which there seems to be a history of abusing substitute teachers.

The team leader has been at the Robert E. Lucas Intermediate School for five years.

You may tell your subgroup what is on this card, but do not pass it around for others to read.....

Information:

The team leader teaches room 701 during the second period.

Harry works with room 702 during the second period.

Ms. Martin has been at the Robert E. Lucas School for the shortest period of time.

■ PINE COUNTY: INFORMATION SHARING

Goals

- To explore the effects of collaboration and competition in group problem solving.
- To study how task-relevant information is shared within a group.
- To observe problem-solving strategies within a group.
- To demonstrate the impact of various leadership styles on task accomplishment.

Group Size

Unlimited number of subgroups of five participants each, which may be directed simultaneously in the same room.

Time Required

Approximately one hour.

Materials

- A set of five Pine County Data Sheets for each subgroup. (Each sheet contains unique data and is coded by the number of periods, from one to five, following the last sentence of the first paragraph.)
- A copy of the Pine County Candidate Summary Sheet for each participant.
- A copy of the Pine County Briefing Sheet for each participant.
- A copy of the Pine County Solution Sheet for each participant.
- Sheets of newsprint, felt-tipped markers, masking tape, and pencils may be made available to groups.

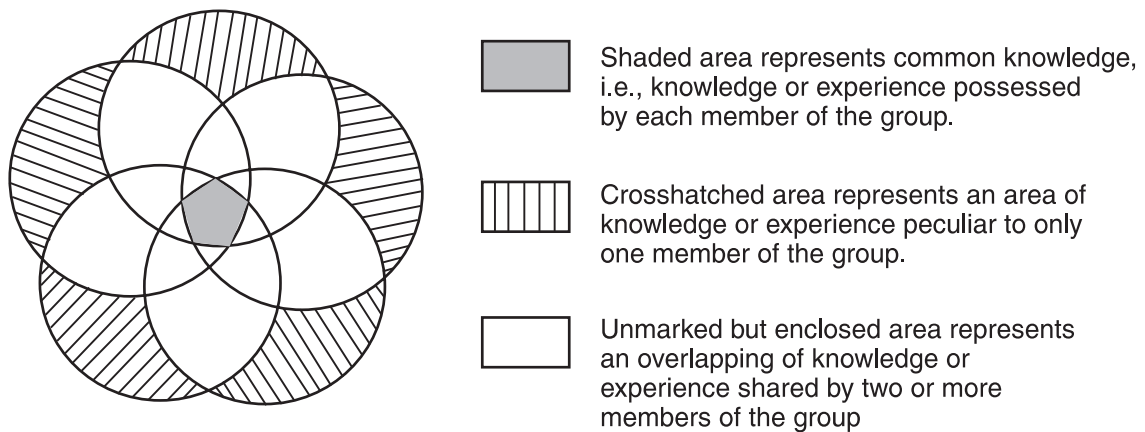
Physical Setting

One room large enough that the individual subgroups can work without being disrupted by other subgroups and without being influenced by problem solutions overheard from other subgroups. An alternative setting would be a room large enough to hold all participants comfortably during the instructions and processing phases and several

smaller rooms where individual subgroups could work undisturbed during the problem-solving phase. It is useful for subgroups to work at tables. Supply extra chairs near the subgroups if observers are used.

Process

1. The facilitator explains to the participants that they will be doing an exercise in problem solving but does not suggest any clue or key to the problem solving.
2. The facilitator forms subgroups of five participants by any convenient and appropriate method. If observers are to be used, they are either assigned to a specific subgroup, or they may move from subgroup to subgroup. (The first method provides individual feedback on work styles, and the second method provides generalizable data concerning behavior in task groups.)
3. The facilitator explains that each subgroup's task is to select a director for the Family Counseling Unit of the Community Action Agency. There is only one correct solution, and each subgroup must reach its solution independently. When each subgroup has completed the problem solving and has given its solution to the facilitator, participants may observe other subgroups still in process. They may not, however, join another subgroup or influence another subgroup's process in any way.
4. The facilitator distributes the Pine County Candidate Summary Sheets, the Pine County Briefing Sheets, and individual Pine County Data Sheets to each participant, taking care that all five differently coded Data Sheets have been distributed in each subgroup. (If observers are used, they may be briefed outside the main room.)
5. The subgroups begin the problem-solving process when the facilitator gives the signal. Groups are told that they will be able to reach a solution within thirty minutes. The facilitator may incorporate an element of competition by posting the number of minutes used by each subgroup in solving the problem.
6. When all subgroups have found a solution to the problem, the facilitator and/or the observers initiate a discussion of the problem-solving processes that were observed, focusing on strategies employed, the effects of collaboration and competition, noncontributing participants, and the importance of the information-sharing process.
7. Each participant is given a copy of the Pine County Solution Sheet and the facilitator leads a discussion.
8. To generalize the importance of examining the significance of all members' input, the facilitator may wish to use the following diagram:



Group decisions are more likely to be effective if they result from discussions that draw on information known by each individual, information shared by combinations of individuals, and information that is common to all group members.

Note to the facilitator: Occasionally, a subgroup will not be able to solve the problem within the time limitations (approximately thirty minutes, with some extension at the facilitator's discretion). The facilitator may have to intervene and stop the process so that there is adequate time to discuss the experience. Sometimes, when a subgroup has failed to arrive at the correct solution, members will exhibit a defensive reaction and attack the facilitator for "manipulation," that is, structuring the task so that the subgroup was destined to fail. This feedback needs to be explored, and the facilitator should keep the following points in mind:

- Participants were given no false, misleading, or conflicting information.
- The facilitator did not attempt to influence the ways in which the subgroup attempted to solve the problem.
- Their attack may be a defense employed to keep from dealing with the behavioral feedback generated by the exercise.

Variations

- The work sheets may be rewritten to contain material more specific to the particular participant group. The formula is simple: Begin at the end, with a correct solution and apportion data to participants so that each has a critical piece of information as well as common knowledge.
- Additional participants can be accommodated within the subgroups by duplicating data sheets. For example, if there are seven members, two participants receive the sheet with one period at the end of the first paragraph, and two receive the sheet with two periods.
- The problem-solving phase can be interrupted several times for processing. Observers can be instructed to give descriptive reports to the subgroups that they are observing.

Participants can be instructed to rate their confidence in the correctness of the solution and their satisfaction with the work style of the subgroup.

- The event may be “staged” in a group-on-group arrangement, so that one group of five solves the problem and another group of any size observes. The problem solving can be interrupted from time to time for process observations. Observers can be assigned different aspects of the process. Observers can be divided into subgroups sporadically to diagnose the functioning of the task group.

Submitted by Lawrence Dunn.

PINE COUNTY DATA SHEET

The Pine County Family Counseling Unit provides services in relation to family problems, mental health difficulties, child-school relationships, etc. The Community Action Agency (CAA), of which the unit is a part, is governed by policies that are generally established by its Board. However, as a concession to social service programs funded by the Community Fund and the Community Chest, the CAA has agreed that its salary categories will be in line with those of other service groups in the community.

Pine County was once a prosperous community, which, because of employment opportunities, attracted people of many diverse backgrounds. The depletion of timber and mineral resources and technological change have now severely undermined the economy. Today there is much unemployment, and the Department of Welfare provides limited assistance to many persons. The recently established Pine County Family Counseling Unit has never been able to cope adequately with the many requests for its help. The CAA Board, therefore, is placing great stress on the selection of a strong director who, it is hoped, will be able to improve the CAA's social service component.

The director is expected to participate in CAA Board meetings, to carry responsibility for community and other Agency relations, and to oversee the Agency's services. The CAA Board has ruled that the director must be at least thirty years old, have at least three years of supervisory or administrative experience, and hold the degree of Master of Social Work (MSW). It has also ruled that he or she must have had a course in casework.

The Pine County CAA's Family Counseling Unit maintains four service centers: Hilldale, with offices for the director and assistant director, Nogulch, Farout, and Lastreach. The Hilldale center is located in the county seat and is staffed by five case aides and a supervisor, who doubles as assistant director. At Nogulch, some fifteen miles to the north, there is a supervisor with four case aides. The Nogulch supervisor joined the Agency eight years ago after fifteen years of employment in the Department of Welfare. At Lastreach, there are three case aides and a supervisor, who joined the Agency staff in the fall of 1989 after receiving an MSW degree from Pacific Slopes. The staff at Farout consists of three case aides and a supervisor, who came to the Agency nine years ago as a case aide and was promoted to this position after obtaining supplementary training.

There are a number of schools offering the MSW degree, the most recently accredited being Pacific Slopes, which reorganized and expanded its department in 1989 to include group work. Its course requirements consist of family problems, casework, group methods, and agency management.

PINE COUNTY DATA SHEET

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The director is expected to participate in CAA Board meetings, to carry responsibility for community and other Agency relations, and to oversee the Agency's services. The CAA Board has ruled that the director must be at least thirty years old, have at least three years of supervisory or administrative experience, and hold the degree of Master of Social Work (MSW) from an accredited school.

The Pine County CAA's Family Counseling Unit maintains four service centers: Hilldale, with offices for the director and assistant director, Nogulch, Farout, and Lastreach. The Hilldale center is located in the county seat and is staffed by five case aides and a supervisor, who doubles as assistant director. At Nogulch, some fifteen miles to the north, there is a supervisor with four case aides. The Nogulch supervisor joined the Agency eight years ago after fifteen years of employment in the Department of Welfare. At Lastreach, there are three case aides and a supervisor who joined the Agency staff in the fall of 1989 after receiving an MSW degree from Pacific Slopes. The staff at Farout consists of three case aides and a supervisor, who came to the Agency nine years ago as a case aide and was promoted to this position after obtaining supplementary training.

There are a number of schools offering an MSW degree, but a passing grade in a course in casework is essential to qualify for membership in the Federation of Social Service Workers. The largest school is Eastern Shores, which includes among its requirements courses in family problems, casework, group methods, and agency management. The smallest is not accredited.

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The Pine County CAA's Family Counseling Unit maintains four service centers: Hilddale, with offices for the director and assistant director, Nogulch, Farout, and Lastreach. The Hilddale center is located in the county seat and is staffed by five case aides and a supervisor, who doubles as assistant director. At Nogulch, some fifteen miles to the north, there is a supervisor with four case aides. The Nogulch supervisor joined the Agency eight years ago after fifteen years of employment in the Department of Welfare. At Lastreach, there are three case aides and a supervisor, who joined the Agency staff in the fall of 1989 after receiving an MSW degree from Pacific Slopes. The staff at Farout consists of three case aides and a supervisor, who came to the Agency nine years ago as a case aide and was promoted to this position after obtaining supplementary training. He is known to have severe problems in accepting suggestions from women.

There are a number of schools offering an MSW degree, and a passing grade in a course in family problems is essential to qualify for membership in the Federation of Social Service Workers. Western Seas is one of the oldest schools and includes among its requirements courses in family problems, casework, group methods, and agency management. Course requirements at Lone Pine, the smallest, include family problems, casework, and group methods.

PINE COUNTY DATA SHEET

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The director is expected to participate in CAA Board meetings, to carry responsibility for community and other Agency relations, and to oversee the Agency's services. The CAA Board has ruled that the director must be at least thirty years old, have at least three years of supervisory or administrative experience, and hold the degree of Master of Social Work (MSW). He or she must also be a member of the Federation of Social Service Workers (FSSW).

The Pine County CAA's Family Counseling Unit maintains four service centers: Hilldale, with offices for the director and assistant director, Nogulch, Farout, and Lastreach. The Hilldale center is located in the county seat and is staffed by five case aides and a supervisor, who doubles as assistant director. This individual holds an MSW granted in 1989 by Southern University for Women. At Nogulch, some fifteen miles to the north, there is a supervisor with four case aides. The Nogulch supervisor joined the Agency eight years ago after fifteen years of employment in the Department of Welfare. At Lastreach, there are three case aides and a supervisor, who joined the Agency staff in the fall of 1989 after receiving an MSW degree from Pacific Slopes. The staff at Farout consists of three case aides and a supervisor, who came to the Agency nine years ago as a case aide and was promoted to this position after obtaining supplementary training.

There are a number of schools offering an MSW degree, and membership in the Federation of Social Service Workers can be obtained without formality by graduates of accredited schools in the United States. Southern Community, which is not the smallest school, includes the following among its requirements: family problems, casework, and group methods.

PINE COUNTY DATA SHEET

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The director is expected to participate in CAA Board meetings, to carry responsibility for community and other Agency relations, and to oversee the Agency's services. The CAA Board has ruled that the director must be at least thirty years old, have at least three years of supervisory or administrative experience, and hold the degree of Master of Social Work (MSW). It has also ruled that the candidate's training must have included work in group methods.

The Pine County CAA's Family Counseling Unit maintains four service centers: Hilldale, with offices for the director and assistant director, Nogulch, Farout, and Lastreach. The Hilldale center is located in the county seat and is staffed by five case aides and a supervisor, who doubles as assistant director. At Nogulch, some fifteen miles to the north, there is a supervisor with four case aides. The Nogulch supervisor joined the Agency eight years ago after fifteen years of employment in the Department of Welfare. At Lastreach, there are three case aides and a supervisor, who joined the Agency staff in the fall of 1989 after receiving an MSW degree from Pacific Slopes. The staff at Farout consists of three case aides and a supervisor, who came to the Agency nine years ago as a case aide and was promoted to this position after obtaining supplementary training.

There are a number of schools offering the MSW degree. A degree from an accredited institution is necessary to qualify for membership in the Federation of Social Service Workers. The smaller schools require three, the larger require four, of the following subjects: family problems, casework, group methods, and agency management.

PINE COUNTY CANDIDATE SUMMARY SHEET

J. BLACK

Personal	Born March 3, 1960 Married, 2 children
Education	Eastern Shores, United States, MSW, 1983
Employment	Caseworker, Dept. of Welfare, 1983-85 Lecturer in Casework, Eastern Shores, 1986-91 Supervisor, Children's Agency, 1991-

L. GREEN

Personal	Born December 30, 1963 Married, 3 children
Education	Southern Community, United States, MSW, 1988
Employment	Caseworker, Family Service Agency, 1986-88 Supervisor, Children's Aid, 1988-90 Supervisor, Family Service Agency, 1990-

R. WHITE

Personal	Born June 15, 1957 Married, no children
Education	Pacific Slopes, United States, MSW, 1987
Employment	Parole Officer, Parental School, 1987-90 Chief Probation Officer, 1990-

A. RED

Personal	Born January 10, 1959 Married, 1 child
Education	Western Seas, United States, MSW, 1987
Employment	Caseworker, Children's Agency, 1987-88 Caseworker, Family Welfare Society, 1988-89 Case Supervisor, Family Welfare Society, 1989-

B. GRAY

Personal	Born January 15, 1958 Married, 1 child
Education	National School of Social Services, London, United Kingdom, MSW, 1986
Employment	Caseworker, Community Family Service, 1986-88 Lecturer, Southern Community, 1988-89 Director, Family Service, 1989-

H. BROWN

Personal	Born March 3, 1957 Single
Education	Lone Pine, United States, MSW, 1982
Employment	Parole Officer, Big Mound Detention Center, 1982-86 Counselor, Children's Mental Health Center, 1986-88 Director, Western County Center for Girls, 1988-

PINE COUNTY BRIEFING SHEET

Instructions:

1. You are a member of the personnel committee of the Pine County Community Action Agency. Your committee consists of Board and Staff representatives.
2. You are meeting to select a candidate from a list who, on Board action, will become the Director of the Family Counseling Unit.
3. The data you bring with you (Pine County Data Sheet) are in your head. You may not exchange data sheets.
4. There is one correct solution.
5. All data are correct.
6. You have approximately thirty minutes to choose the candidate.
7. Assume that today's date is August 1, 1993.
8. There must be substantial agreement when the problem has been solved.
9. You must solve the problem as a group.
10. You may organize your work in any way you wish.
11. You are free to use any material resources in the room.

PINE COUNTY SOLUTION SHEET

	Age	Education	Experience
BLACK	33	Eastern Shores	2 years
GREEN	29	Southern Community	5 years
WHITE	36	<i>Pacific Slopes</i>	3 years
RED	34	Western Seas	4 years
GRAY	35	<i>National School, UK</i>	4 years
BROWN	37	<i>Lone Pine</i>	5 years

BLACK has only two years of supervisory experience.

GREEN is only 29 years of age.

WHITE received an MSW from Pacific Slopes in 1987, when the school was not accredited.

GRAY did not attend a U.S. school and therefore does not qualify for membership in the Federation of Social Service Workers.

BROWN obtained an MSW from Lone Pine. Lone Pine is the smallest school and not, therefore, accredited.

RED is the choice, because only RED meets all the requirements.

■ SALES PUZZLE: INFORMATION SHARING

Goals

- To explore the effects of collaboration and competition in group problem solving.
- To study how information is shared by members of a work group.
- To observe problem-solving strategies within a group.

Group Size

An unlimited number of subgroups of five participants each.

Time Required

Approximately one hour.

Materials

- A Sales Puzzle Problem Sheet for each participant.
- Three different Sales Puzzle Clue Strips for each member of a subgroup, so that each subgroup receives all fifteen clues.
- Pencils and paper or newsprint and felt-tipped markers for each subgroup.

Physical Setting

A room large enough to allow the subgroups to work without distracting one another.

Process

1. The facilitator introduces the experience as a problem-solving task but does not discuss techniques or procedures that may be used.
2. Subgroups of five persons each are formed; any additional persons serve as observers.
3. Each participant receives a copy of the Sales Puzzle Problem Sheet. The facilitator reads it aloud and ascertains that all members understand the task. Each subgroup receives a set of the fifteen Sales Puzzle Clue Strips, three to each member. The subgroups are informed that they will have thirty minutes to solve the problem.
4. If one subgroup finishes before time is called, the facilitator may instruct those members to observe other subgroups still in process. Observers do not communicate in any way with members of working subgroups.

5. When all subgroups have reached a solution or at the end of thirty minutes, the facilitator leads a discussion of the process. Special emphasis is given to such points as the following:
 - The effects of collaboration and competition;
 - The sharing of information among subgroup members;
 - The techniques or strategies employed in problem solving; and
 - The emergence of leadership and the level of contribution of subgroup members.
6. The facilitator announces the answer to the puzzle or posts the key for all to see. A general discussion of the experience follows.

Variations

- Subgroups of six can be formed, with one member designated as an observer. The observers can be permitted to make process interventions at any time.
- The material can be adapted to fit a particular client group.
- The design can be used as an intergroup-competition activity.
- Roles can be assigned to particular individuals within subgroups.

Sales Puzzle Key

Ranking	Northeast Mr. Black	Southeast Mr. White	Northwest Mr. Blue	Southwest Mr. Grey
First	commercial	distribution	GOVERNMENT	INDUSTRIAL
Second	INDUSTRIAL	GOVERNMENT	DISTRIBUTION	commercial
Third	DISTRIBUTION	industrial	COMMERCIAL	government
Fourth	government	COMMERCIAL	industrial	DISTRIBUTION

Capital letters: information given to the subgroups.

Lower-case letters: information to be deduced by the subgroups.

The matrix does not have to take this particular form for the correct answer to be reached. However, some plan of organizing the information—such as a matrix—will speed the solution.

Statements on the Sales Puzzle Problem Sheet not relevant to solution: numbers 1, 6, 9, 11, 13.

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SALES PUZZLE PROBLEM SHEET

Background

A certain company has four regional sales districts: Northeast, Northwest, Southeast, and Southwest.

The district sales managers meet quarterly to report on their sales in four categories: commercial, distribution, industrial, and government.

The managers' names are: Lee Grey, Kim Blue, Chris Black, and Dale White.

At their most recent meeting, the managers discovered that each had highest sales in a different category from the others. In other words, one of them ranked highest in commercial sales, another had the highest distribution sales, a third had the most industrial sales, and the last topped the list in government sales.

Instructions

Your group's task is to determine the regional sales district in which each manager works and to determine the category in which the manager had the highest sales, the second highest sales, and so on.

Each member of your group has received three clues to the puzzle. There is a total of fifteen clues.

You may share verbally all the information you have, but *do not allow other members to read your clues.*

SALES PUZZLE CLUE STRIPS

1. Chris Black was the host for this meeting.

2. The Southeast manager was urged to “get out of the cellar” in commercial sales.

3. Dale White was congratulated for climbing to first place in distribution sales.

4. Kim Blue offered to host the next meeting in Portland, Oregon.

5. The Southwest manager came in first in industrial sales for the first time.

6. Lee Grey was the only manager who brought a spouse.

7. Everyone kidded the Southwest manager, who came in last in distribution sales.

8. The Northwest manager was, as usual, third in commercial sales.

9. The Southwest manager had to leave the meeting early.

10. The Southwest manager had to pay off a five-dollar bet to the Northeast manager because the Northeast was one place ahead in distribution sales. (But the Southwest manager won it back at golf.)

11. Dale White had a bad cold and didn’t play golf.

12. The Northwest manager explained coming in first in government sales (over the Southeast) by a big order from the Denver Federal Service Center.

13. Kim Blue was the big winner at poker.

14. Everyone was surprised that the Northeast manager slipped to second place in industrial sales, because most industry is in that area.

15. Lee Grey won the pot for the golf game.

■ DUST PAN CASE: SOLVING THE MYSTERY

Goals

- To help the participants to become aware of the importance of communication and information sharing in groups.
- To develop the participants' awareness of how they share information while completing a task.
- To provide the participants with an opportunity to study how information is shared by members of a group.

Group Size

Three to five subgroups of five or six participants each.

Time Required

One and one-half hours.

Materials

- A set of the Dust Pan Case handouts for each subgroup. Each set contains the following:
 - One copy of the Dust Pan Case Background Sheet for each member of the subgroup.
 - One copy of the Dust Pan Case Employee Statements A for each subgroup.
 - One copy of the Dust Pan Case Employee Statements B for each subgroup.
 - One copy of the Dust Pan Case Employee Statements C for each subgroup.
 - One copy of the Dust Pan Case Employee Statements D for each subgroup.
 - One copy of the Dust Pan Case Observer Sheet for each observer.
- A copy of the Dust Pan Case Master Sheet for the facilitator.
- Several sheets of blank paper and a pencil for each participant.
- A clipboard or other portable writing surface for each participant.
- A newsprint flip chart and a felt-tipped marker.
- Masking tape for posting newsprint.

Physical Setting

A room with adequate space so that the subgroups can work without disturbing one another. A table and chairs should be provided for each subgroup.

Process

1. The facilitator introduces the activity by reviewing its goals. (Five minutes.)
2. The participants are assembled into subgroups of five or six members each. Each subgroup is seated at a separate table. The facilitator directs the participants to designate four members of each subgroup to serve as committee members; the remaining one or two participants are designated as observers. (Five minutes.)
3. The facilitator distributes blank paper, pencils, and a set of the Dust Pan Case handouts to an observer in each subgroup. Observers are instructed to distribute one copy of the Dust Pan Case Background Sheet and one of the Dust Pan Case Committee Member Information Sheets (A, B, C, or D) to each committee member. Each committee member also receives blank sheets of paper and a pencil. The observers each receive a copy of the Dust Pan Case Observer Sheet and the Dust Pan Case Background Sheet. (Five minutes.)
4. The facilitator instructs the committee members to read the information sheets and to work with the other committee members to answer the three questions posed on the background sheet. When the committee reaches consensus on the answers, the answers should be recorded on the background sheet. The facilitator asks observers to follow the instructions on the observer sheet. (Thirty minutes.)
5. After all committees have completed the task, the facilitator collects one background sheet from each committee, reconvenes the total group, and charts the responses on newsprint. The facilitator then leads a discussion of the questions:
 - What happened to the \$300,000 check?
 - How much money is owed and to whom?
 - What specifically needs to be done to fix the financial error?
 - What specifically needs to be done to fix the system that allowed the error?(Fifteen minutes.)
6. Next, the facilitator asks the observers to take turns sharing the contents of their sheets and writes themes on the flip chart. (Fifteen minutes.)
7. The facilitator then leads a concluding discussion based on the following questions:
 - What did you learn about how you share information? About how others in the subgroup share information? About how sharing information can influence task completion?

- In what ways did this activity reflect your own experience with giving and receiving task-related information? In what ways was it different?
- What have you learned about communication and information sharing that you can apply to your job or organization?

(Fifteen minutes.)

Variations

- The facilitator may tell subgroups that they are in competition with one another and that the first subgroup to submit correct answers to all three questions “wins.”
- One piece of information may be left out. The subgroups may be assigned to determine what information they need, have it supplied, and then finish the activity.
- Irrelevant, but seemingly important information may be added to the employee statements, such as from where the check was mailed or the other items that were inventoried.
- Additional employee statements may be added, containing parts of the needed information or completely irrelevant information.

Submitted by Allen E. Dickinson.

DUST PAN CASE BACKGROUND SHEET

Hush Corporation recently appointed a committee of four employees to review all financial transactions that occurred during the preceding quarter. The work of the committee is highly confidential because it involves reviewing invoices for materials for top-secret equipment. Therefore, selection of the committee members was based on security clearances rather than on their knowledge of accounting.

You, along with the other members of this committee, have worked diligently to trace every financial transaction for the entire quarter. One last problem item remains on the committee's agenda: Hush Corporation has begun to receive past-due notices from one of its suppliers. The past-due letter states that Hush Corporation owes \$150,000 for invoice No. 73202. The corporation's records show that a check for \$300,000 was mailed for that invoice. The vendor insists that the check has not been received and threatens to turn your corporation's account over to a collection agency.

Investigation of the loss has determined that only four people had knowledge of this particular transaction. These four people were interviewed, and their statements were taken. You should assume that all four statements are true. Your committee's task is to review these statements and to determine answers to the following four questions:

1. What happened to the \$300,000 check?
2. How much money is owed and to whom?
3. What specifically needs to be done to fix the financial error?
4. What specifically needs to be done to fix the system that allowed the error?

DUST PAN CASE EMPLOYEE STATEMENTS A

Mr. Tim McFall, Shipping and Receiving Supervisor:

On September 3, I personally supervised the receipt of laser-guided dustpans valued at \$1,000 each from Dust Bin, Inc., of Albany, Georgia. I amended invoice No. 73202 in light-blue pencil to show the number received and forwarded the invoice to the Inventory Control Department.

Mr. John Winters, Inventory Control Supervisor:

On September 4, I received invoice No. 73202 from the Shipping and Receiving Department. I personally inventoried the stock and verified the receipt. I photocopied the invoice and sent the copy to the Accounting Department for payment and filed the original invoice in my files.

Mrs. Anne Summer, Accounts Payable Supervisor:

I received a copy of invoice No. 73202 and authorization for payment from Mr. Winters on September 5. I then drafted a check for \$300,000 and placed the completed check and invoice in the out-basket on my desk.

Ms. Jackie Spring, Accounting Clerk:

I picked up a copy of invoice No. 73202 and its check from Mrs. Summer's out-basket on September 6. I addressed an envelope to Dust Pan, Inc., of Albany, New York, photocopied the invoice, inserted the copy and the check in the envelope, and mailed it. I then filed my copy of the invoice in the accounts-paid file.

DUST PAN CASE EMPLOYEE STATEMENTS B

Mr. Tim McFall, Shipping and Receiving Supervisor:

On September 3, I personally supervised the receipt of laser-guided dustpans valued at \$1,000 each from Dust Bin, Inc., of Albany, Georgia. I amended invoice No. 73202 in light-blue pencil to show the number received and forwarded the invoice to the Inventory Control Department.

Mr. John Winters, Inventory Control Supervisor:

On September 4, I received invoice No. 73202 from the Shipping and Receiving Department. I personally inventoried the stock and verified the receipt. I photocopied the invoice and sent the copy to the Accounting Department for payment and filed the original invoice in my files.

Mrs. Anne Summer, Accounts Payable Supervisor:

I received a copy of invoice No. 73202 and authorization for payment from Mr. Winters on September 5. I then drafted a check for \$300,000 to be paid to Dust Pan, Inc., of Albany, Georgia, and placed the completed check and invoice in the out-basket on my desk.

Ms. Jackie Spring, Accounting Clerk:

I picked up a copy of invoice No. 73202 and its check from Mrs. Summer's out-basket on September 6. I addressed an envelope, photocopied the invoice, inserted the copy and the check in the envelope, and mailed it. I then filed my copy of the invoice in the accounts-paid file.

DUST PAN CASE EMPLOYEE STATEMENTS C

Mr. Tim McFall, Shipping and Receiving Supervisor:

On September 3, I personally supervised the receipt of half of our order for 300 laser-guided dustpans valued at \$1,000 each from Dust Bin, Inc., of Albany, Georgia. I amended invoice No. 73202 in light-blue pencil to show the number received and forwarded the invoice to the Inventory Control Department.

Mr. John Winters, Inventory Control Supervisor:

On September 4, I received invoice No. 73202 from the Shipping and Receiving Department. I personally inventoried the stock and verified the receipt. I photocopied the invoice and sent the copy to the Accounting Department for payment and filed the original invoice in my files.

Mrs. Anne Summer, Accounts Payable Supervisor:

I received invoice No. 73202 and authorization for payment from Mr. Winters on September 5. I then drafted a check for \$300,000 and placed the completed check and invoice in the out-basket on my desk.

Ms. Jackie Spring, Accounting Clerk:

I picked up a copy of invoice No. 73202 and its check from Mrs. Summer's out-basket on September 6. I addressed an envelope, photocopied the invoice, inserted the copy and the check in the envelope, and mailed it. I then filed my copy of the invoice in the accounts-paid file.

DUST PAN CASE EMPLOYEE STATEMENTS D

Mr. Tim McFall, Shipping and Receiving Supervisor:

On September 3, I personally supervised the receipt of laser-guided dustpans valued at \$1,000 each from Dust Bin, Inc., of Albany, Georgia. I amended invoice No. 73202 in light-blue pencil to show the number received and forwarded the invoice to the Inventory Control Department.

Mr. John Winters, Inventory Control Supervisor:

On September 4, I received invoice No. 73202 from the Shipping and Receiving Department. I personally inventoried the stock and verified the receipt of 150 laser-guided dustpans. I photocopied the invoice and sent the copy to the Accounting Department for payment and filed the original invoice in my files.

Mrs. Anne Summer, Accounts Payable Supervisor:

I received invoice No. 73202 and authorization for payment from Mr. Winters on September 5. I then drafted a check for \$300,000 and placed the completed check and invoice in the out-basket on my desk.

Ms. Jackie Spring, Accounting Clerk:

I picked up a copy of invoice No. 73202 and its check from Mrs. Summer's out-basket on September 6. I addressed an envelope, photocopied the invoice, inserted the copy and the check in the envelope, and mailed it. I then filed my copy of the invoice in the accounts-paid file.

DUST PAN CASE OBSERVER SHEET

Instructions: During this activity, you are to observe the participants' interactions carefully and write answers to the following questions. Later you will be asked to share these questions and your answers with the total group. If you need clarification of this assignment, consult the facilitator in private; do *not* share the content of this sheet with the participants who are involved in the problem-solving activity.

1. How is the committee approaching its task? What process or procedure is the committee following to solve the problem? How are the members sharing information?

2. How are individual members' ideas received by the rest of the committee?

3. How is the committee making decisions?

4. How would you describe the communication patterns of the members?

5. What are your personal reactions to the members' effectiveness in working together? What are they doing well? What could be improved?

DUST PAN CASE MASTER SHEET

(Note to the facilitator: This master copy includes four underlined statements, which represent all of the information needed to answer the original three questions. Each Committee Member Information Sheet includes only one of the underlined statements; the committee members, therefore, must share their information in order to answer the questions.)

Hush Corporation recently appointed a committee of four employees to review all financial transactions that occurred during the preceding quarter. The work of the committee is highly confidential because it involves reviewing invoices for materials for top-secret equipment. Therefore, selection of the committee members was based on security clearances rather than on their knowledge of accounting.

You, along with the other members of this committee, have worked diligently to trace every financial transaction for the entire quarter. One last problem item remains on the committee's agenda: Hush Corporation has begun to receive past-due notices from one of its suppliers. The past-due letter states that Hush Corporation owes \$150,000 for invoice No. 73202. The corporation's records show that a check for \$300,000 was mailed for that invoice. The vendor insists that the check has not been received and threatens to turn your corporation's account over to a collection agency.

Investigation of the loss has determined that only four people had knowledge of this particular transaction. These four people were interviewed, and their statements were taken. You should assume that all four statements are true. Your committee's task is to review these statements and to determine answers to the following four questions:

1. What happened to the \$300,000 check?
2. How much money is owed and to whom?
3. What specifically needs to be done to fix the financial error?
4. What specifically needs to be done to fix the system that allowed the error?

Employee Statements:

Mr. Tim McFall, Shipping and Receiving Supervisor:

On September 3, I personally supervised the receipt of half of our order for 300 laser-guided dustpans valued at \$1,000 each from Dust Bin, Inc., of Albany, Georgia. I amended invoice No. 73202 in light-blue pencil to show the number received and forwarded the invoice to the Inventory Control Department.

Mr. John Winters, Inventory Control Supervisor:

On September 4, I received invoice No. 73202 from the Shipping and Receiving Department. I personally inventoried the stock and verified the receipt of 150 laser-guided dustpans. I photocopied the invoice and sent the copy to the Accounting Department for payment and filed the original invoice in my files.

Mrs. Anne Summer, Accounts Payable Supervisor:

I received a copy of invoice No. 73202 and authorization for payment from Mr. Winters on September 5. I then drafted a check for \$300,000 to be paid to Dust Pan, Inc., of Albany, Georgia, and placed the completed check and invoice in the out-basket on my desk.

Ms. Jackie Spring, Accounting Clerk:

I picked up a copy of invoice No. 73202 and its check from Mrs. Summer's out-basket on September 6. I addressed an envelope to Dust Pan, Inc., of Albany, New York, photocopied the invoice, inserted the copy and the check in the envelope, and mailed it. I then filed my copy of the invoice in the accounts-paid file.

Solution (for the facilitator only):

1. The \$300,000 check was made out to Dust Pan, Inc., and mailed to Dust Pan, Inc., in Albany, New York, instead of to Dust Bin, Inc., in Albany, Georgia.
2. Hush Corporation owes \$150,000 to Dust Bin, Inc., of Albany, Georgia. Dust Pan, Inc., of Albany, New York, owes \$300,000 to Hush Corporation.
3. The error can be fixed by sending a check for \$150,000 to Dust Bin, Inc., in Albany, Georgia, and tracking down the check that was mailed to Dust Pan, Inc., in Albany, New York. If the \$300,000 check has not cleared the bank, a stop-payment order should be requested. Employees at Hush Corporation should be alerted to the fact that light-blue pencil does not photocopy and that invoices should be corrected and initialed in red pencil at each step in the process.

■ MURDER ONE: INFORMATION SHARING

Goals

- To explore the effects of cooperation-collaboration versus competition in group problem solving.
- To demonstrate the need for information sharing and other problem-solving strategies in a task-oriented group.
- To study the roles that emerge in a task group.

Group Size

At least two subgroups of five members each.

Time Required

One and one-half hours.

Materials

- A copy of the Murder One Instruction Sheet for each participant.
- A copy of the Murder One Suspect Data Sheet for each participant.
- One set of Murder One Briefing Sheets for each subgroup, a different sheet for each member. (Each of the five sheets is coded by the number of dots, ranging from one to five, at the end of the first paragraph. Each sheet contains data that is not found on another sheet in that set.)
- Blank paper and a pencil for each participant.
- A Murder One Solution Sheet for each participant.
- Newsprint and a felt-tipped marker.

Physical Setting

A room large enough for subgroups to meet simultaneously without disturbing one another or overhearing one another's solutions to the problem. Each subgroup should have a table and chairs at which the members may work. (An alternative is to have a separate room in which each subgroup can work during the problem-solving phase.)

Process

1. The facilitator introduces the activity as a group problem-solving task, but does not discuss at this time the need to share information.
2. The facilitator divides the participants into subgroups of five members each. If there are four or fewer participants remaining, they may serve as process consultants.
3. The facilitator explains that each subgroup's task is to decide who is the suspect to be arrested on a charge of first-degree murder. The subgroups are told that there is only one correct solution to the problem and that each is to reach its decision independent of the other subgroups. The facilitator also says that when a subgroup completes the task, its members may observe other subgroups still in process, but they may not interfere with or join the other subgroup in any way.
4. The facilitator distributes a Murder One Instruction Sheet, Briefing Sheet, and Suspect Data Sheet, as well as paper and a pencil to each participant. He or she takes care to see that each member of a group has received a different Briefing Sheet (with a different number of dots following the first and last paragraphs).
5. The facilitator may privately brief any process consultants on what to look for during the subgroup process. They are instructed to intervene as they deem necessary to help a subgroup to clarify its process, and they are told not to participate in the subgroup's discussion of the content. The facilitator then tells the subgroups that they have forty-five minutes in which to solve the problem and that they are to record their reasons for eliminating each suspect. He or she then gives the signal to begin.
6. When all subgroups have reached a decision, or at the end of forty-five minutes, the entire group is reassembled. Each subgroup reports on its solution, and the facilitator may briefly outline the elimination process on newsprint. Then the Murder One Solution Sheets are distributed and explained.
7. The facilitator then leads a discussion of the experience, focusing on the effects of collaboration and competition, the need to share information in problem solving, the roles that were played by subgroup members, and other task-related strategies or group dynamics.

Variations

- The situation and information can be adapted to suit the needs and background of the group.
- Observers can be assigned to specific subgroups or can be directed to look for specific aspects of the group process.
- The facilitator can inform the participants that the data sheets contain different information.

- The facilitator can increase competition between subgroups by posting the amount of time used by each in accomplishing its task and by posting the solution arrived at by each subgroup.

Submitted by Donald K. McLeod.

MURDER ONE INSTRUCTION SHEET

Instructions:

1. The threat of violence between various factions of organized crime over the control of narcotics imperils the tranquility of your community. To combat this threat, the commissioner has directed a step-up in the activity against criminal organizations within your community.
2. You are a group of top detectives who have been assigned to the Organized Crime Bureau within your department.
3. Charly "Poppa" Hasson's gang has been singled out for particular attention by your team.
4. Your task becomes complicated when murder occurs during your investigation.
5. Your task, as a subgroup, is to single out one suspect from members of the Hasson gang. Circumstantial evidence may be used to identify and arrest one member of the gang. The remaining six suspects must be cleared for a specific reason, which you as a subgroup must declare at the termination of the activity. Data have been supplied regarding the suspects. Your team has all the information necessary for the solution of the case.

Assumptions:

1. Assume that there is one solution.
2. Assume that all data are correct.
3. You have forty-five minutes in which to determine a suspect.
4. Assume that today's date is July 7, and that all primary actions are taking place on this date.
5. There must be substantial agreement in your subgroup that the problem is solved.
6. You must work the problem as a subgroup.

MURDER ONE SUSPECT DATA SHEET

Viron, Benjamin ("Benjie") M-W-49
Height: 5'4" Weight: 220 Hair: Gray/Brown Eyes: Brown
Blood Type: B Shoe: 7½D Tattoos: Right arm, "Mother"
Vehicle: 1988 Mercedes Dark Blue Sedan
Record: 17 arrests-Charges: Gambling, Loansharking, Extortion, Assault, Narcotics, Robbery, Rape.

Enopac, Alphonse ("Jumbo") M-W-52
Height: 5'7" Weight: 245 Hair: Black/Gray Eyes: Brown
Blood Type: A Shoe: 8D Tattoos: Left arm, "Al & Eloise"
Vehicle: 1989 Lincoln Black Sedan
Record: 26 arrests-Charges: Gambling, Narcotics, Extortion, Assault, Statutory Rape, Homicide.

Ollag, Joseph ("Chills") M-W-52
Height: 5'7½" Weight: 180 Hair: Brown Eyes: Brown
Blood Type: A Shoe: 8D Tattoos: None
Vehicle: 1987 Cadillac Black Sedan
Record: 20 arrests-Charges: Gambling, Narcotics, Assault, Extortion, Homicide.

Phelps, James ("Digger") M-W-52
Height: 5'7" Weight: 210 Hair: Black/Brown Eyes: Blue
Blood Type: B Shoe: 7½D Tattoos: Chest, "Blue Birds"
Vehicle: 1988 Cadillac Dark Green Sedan
Record: 30 arrests-Charges: Gambling, Narcotics, Assault, Robbery, Loansharking, Homicide.

Sutter, Edward ("Blue Eyes") M-W-51
Height: 5'7" Weight: 240 Hair: Black/Gray Eyes: Blue
Blood Type: B Shoe: 7½D Tattoos: Right Arm, "For God & Country"
Vehicle: 1989 Chrysler Black Sedan
Record: 12 arrests-Charges: Gambling, Loansharking, Assault, Rape, Extortion.

Lagas, Franklin ("Hot Dog") M-W-50
Height: 5'7" Weight: 235 Hair: Black/Gray Eyes: Brown
Blood Type: B Shoe: 8D Tattoos: None
Vehicle: 1988 Cadillac Black Sedan
Record: 19 arrests-Charges: Homicide, Robbery, Assault, Extortion, Narcotics,
Gambling, Impairing Morals of a Minor.

Aifam, George ("Gypsy") M-W-39
Height: 5'7½" Weight: 245 Hair: Black Eyes: Brown
Blood Type: B Shoe: 8D Tattoos: Left arm, "To Mother with Love"
Vehicle: 1988 Lincoln Black Sedan
Record: 23 arrests-Charges: Gambling, Loansharking, Assault, Extortion, Homicide.

MURDER ONE BRIEFING SHEET

Charly "Poppa" Hasson has been linked to organized crime by both national and state Organized Crime Task Forces. Information has been received that Poppa Hasson has formed a gang of his own and is engaged in heavy narcotics traffic. Recent investigations by your department have disclosed the identity of seven members of the Hasson gang. Further investigations and surveillance have revealed that the members of the gang are actively engaged in narcotic distribution despite severe pressure from the Joint Organized Task Force. Confidential information has disclosed a widening rift between gang members and Charly Hasson; members of the gang have accused him of "skimming off the top." Threats have been made by gang members to kill Charly if he doesn't improve.

As a result of the threats, Poppa has been making himself scarce and rarely meets more than one gang member at a time. He has secluded himself in an apartment in a remote part of town, a relatively safe location unknown to the gang members. An informant has told your department about Hasson's hideout, and a legal wiretap has been installed on his telephone. Several days have gone by, and no action has been indicated by the tap. On July 7, at 7:03 p.m., Charly made a call to an undetermined public phone booth, and a taped conversation was recorded as follows:

Unknown Person: "Yeah?"

Poppa (Charly): "Eh, I got a big one; meet me at the club at 10:30."

Unknown Person: "O.K." (Clicks off.)

Past information indicates the club to be the Starlight Hunting & Fishing Club at 197 Kenmore Street, a secluded place used in the past for gang meetings. Other persons have divulged that some heavy drugs have come into town. Thus, it appears that Poppa may be getting part of the action. With this in mind, your squad commander decides to cover the club and put a close surveillance on all suspects at the location.

The Joint Task Force, having information confirming a big drug shipment to the city, swings into action at 9:00 p.m. this date and simultaneously rounds up suspects who might be involved. The sweep nets twenty suspects, including Johnny Blue Eyes, Harry Hinge, Bruce Comma, Benny Carato, Sam Perez, John Smith, Mike Crupa, Danny Skidmore, Frankie Todd, Sidney Hall, Jackie Leod, and Cary Crooke. All are known by the department to be actively engaged in illegal narcotics traffic. The stakeout at Poppa's house reports that he leaves at 9:30 p.m., but he loses the people who are following him at about 10:00 p.m. on the other side of town. Other tails report in, and information about the members of Poppa's gang is compiled by the team. At 7:00 p.m., surveillance had disclosed that Jumbo and Benjie's whereabouts were unknown; Hot Dog and Gypsy were near a betting office, Digger was at some meeting, and Chills and Blue Eyes were in the vicinity of a social club. Armed with this information, the team moves to 197 Kenmore Street.

At 10:15 p.m., the first unit of the team arrives and observes that the club door is ajar and Hasson's car is parked outside. The area seems deserted, and only one light flickers through the open door. It appears from the outside that someone is lying on the floor. A decision is made to move in for a better look. Closer scrutiny reveals Charly's body lying face down on the floor. He is bleeding profusely from head wounds—apparently gunshot wounds from a weapon found lying near an open window at the rear of the premises. The area is immediately sealed off, and the forensic unit is called to the scene. While awaiting the results of the lab unit, the team makes a door-to-door search in an attempt to locate a witness or persons who might have seen Charly "Poppa" with someone at the location. The search is apparently fruitless until one middle-aged man is found who observed two men entering the abandoned club while he was walking his dog. The frightened witness, who resides three blocks from the club, says he saw the two enter the building and then heard a loud argument, during which someone shouted "No! No!" At that time he heard two shots, and the door of the club opened but no one came out. Then he saw a man fleeing from behind the building. The man was middle-aged, wore a white shirt and black trousers, was about average in height, and was heavy. The man fled in a dark car parked on the next block. The witness, fearful for his own life, ran home, and when a detective doing door-to-door interviews came to his house, the witness gave him the above information.

The forensic unit thoroughly searches the premises and comes up with prints belonging to Poppa; other prints are not distinguishable and cannot be classified. The weapon located at the scene is a .44 Magnum of undetermined origin—no fingerprints are obtained from the gun. Blood stains seem to indicate a fierce struggle, and apparently Charly had almost made it to the door. The blood stains on the floor fall into two groupings: A and B. Charly had bled profusely; he had blood type A. Beneath his fingernails are tufts of hair. Further investigation reveals a footprint in the tomato patch below the window at the rear of the club. The print seems to be anywhere from a size 7D to a size 8D; it is somewhat distorted and was made by a man of greater-than-average weight. (This is determined by a mold made at the scene and a measurement of the height of the drop from the window to the ground.) Pressure from the hierarchy of the department demands a quick solution to this case, especially in view of the recent mass arrests made by the Joint Task Force. On the basis of the facts herein your team is directed to make a prompt arrest.

The most likely suspects are the members of Charly "Poppa" Hasson's gang. It would seem likely that Charly called a member of the gang and made an appointment with his killer. All the information available to your team can be culled from the Briefing Sheet. Your task is to identify the killer by using the facts available.

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Charly "Poppa" Hasson has been linked to organized crime by both national and state Organized Crime Task Forces. Information has been received that Poppa Hasson has formed a gang of his own and is engaged in heavy narcotics traffic. Recent investigations by your department have disclosed the identity of seven members of the Hasson gang. Further investigations and surveillance have revealed that the members of the gang are actively engaged in narcotics distribution despite severe pressure from the Joint Organized Task Force. Confidential information has disclosed a widening rift between gang members and Charly Hasson; members of the gang have accused him of "skimming off the top." Threats have been made by gang members to kill Charly if he doesn't shape up..

As a result of threats, Poppa has been making himself scarce and rarely meets more than one gang member at a time. He has secluded himself in an apartment in a remote part of town, a relatively safe location unknown to the gang members. An informant has told your department about Hasson's hideout, and a legal wiretap has been installed on his telephone. Several days have gone by, and no action has been indicated by the tap. On July 7, at 7:03 p.m., Charly made a call to an undetermined public phone booth, and a taped conversation was recorded as follows:

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At 10:15 p.m., the first unit of the team arrives and observes that the club door is ajar and Hasson's car is parked outside. The area seems deserted, and only one light flickers through the open door. It appears from the outside that someone is lying on the floor. A decision is made to move in for a better look. Closer scrutiny reveals Charly's body lying face down on the floor. He is bleeding profusely from head wounds—apparently gunshot wounds from a weapon found lying near an open window at the rear of the premises. The area is immediately sealed off, and the forensic unit is called to the scene. While awaiting the results of the lab unit, the team makes a door-to-door search in an attempt to locate a witness or persons who might have seen Charly "Poppa" with someone at the location. The search is apparently fruitless until one middle-aged man is found who observed two men entering the abandoned club while he was walking his dog. The frightened witness, who resides three blocks from the club, says he saw the two enter the building and then heard a loud argument, during which someone shouted "No! No!" At that time he heard two shots, and the door of the club opened but no one came out. Then he saw a man fleeing from behind the building. The man was middle-aged, wore a white shirt and black trousers, was about average in height, and was heavy. The man fled in a dark car parked on the next block. The witness, fearful for his own life, ran home, and when a detective doing door-to-door interviews came to his house, the witness gave him the above information.

The forensic unit thoroughly searches the premises and comes up with prints belonging to Poppa; other prints are not distinguishable and cannot be classified. The weapon located at the scene is a .44 Magnum of undetermined origin—no fingerprints are obtained from the gun. Blood stains seem to indicate a fierce struggle, and apparently Charly had almost made it to the door. The blood stains on the floor fall into two groupings: A and B. Charly had bled profusely and beneath his fingernails are tufts of hair. Further investigation reveals a footprint in the tomato patch below the window at the rear of the club. The print seems to be anywhere from a size 7D to a size 8D; it is somewhat distorted and was made by a man of greater-than-average weight. (This is determined by a mold made at the scene and a measurement of the height of the drop from the window to the ground.) Pressure from the hierarchy of the department demands a quick solution to the case, especially in view of the recent mass arrests made by the Joint Task Force. On the basis of the facts herein your team is directed to make a prompt arrest.

The most likely suspects are the members of Charly "Poppa" Hasson's gang. It would seem likely that Charly called a member of the gang and made an appointment with his killer. All the information available to your team can be culled from the Briefing Sheet. Your task is to identify the killer by using the facts available.

MURDER ONE BRIEFING SHEET

Charly "Poppa" Hasson has been linked to organized crime by both national and state Organized Crime Task Forces. Information has been received that Poppa Hasson has formed a gang of his own and is engaged in heavy narcotics traffic. Recent investigations by your department have disclosed the identity of seven members of the Hasson gang. Further investigations and surveillance have revealed that the members of the gang are actively engaged in narcotics distribution despite severe pressure from the Joint Organized Task Force. Confidential information has disclosed a widening rift between gang members and Charly Hasson; members of the gang have accused him of "skimming off the top." Threats have been made by gang members to kill Charly if he doesn't shape up.....

As a result of the threats, Poppa has been making himself scarce and rarely meets more than one gang member at a time. He has secluded himself in an apartment in a remote part of town, a relatively safe location unknown to the gang members. An informant has told your department about Hasson's hideout, and a legal wiretap has been installed on his telephone. Several days have gone by, and no action has been indicated by the tap. On July 7, at 7:03 p.m., Charly made a call to an undetermined public phone booth, and a taped conversation was recorded as follows:

Unknown Person: "Yeah?"

Poppa (Charly): "Eh, I got a big one; meet me at the club at 10:30."

Unknown Person: "O.K." (Clicks off.)

Past information indicates the club to be the Starlight Hunting & Fishing Club at 197 Kenmore Street, a secluded place used in the past for gang meetings. Other persons have divulged that some heavy drugs have come into town. Thus, it appears that Poppa may be getting part of the action. With this in mind, your squad commander decides to cover the club and put a close surveillance on all suspects at the location.

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At 10:15 p.m., the first unit of the team arrives and observes that the club door is ajar and Hasson's car is parked outside. The area seems deserted, and only one light flickers through the open door. It appears from the outside that someone is lying on the floor. A decision is made to move in for a better look. Closer scrutiny reveals Charly's body lying face down on the floor. He is bleeding profusely from head wounds—apparently gunshot wounds from a weapon found lying near an open window at the rear of the premises. The area is immediately sealed off, and the forensic unit is called to the scene. While awaiting the results of the lab unit, the team makes a door-to-door search in an attempt to locate a witness or persons who might have seen Charly "Poppa" with someone at the location. The search is apparently fruitless until one middle-aged man is found who observed two men entering the abandoned club while he was walking his dog. The frightened witness, who resides three blocks from the club, says he saw the two enter the building and then heard a loud argument, during which someone shouted "No! No!" At that time he heard two shots, and the door of the club opened but no one came out. Then he saw a man fleeing from behind the building. The man was middle-aged, wore a white shirt and black trousers, was about average in height, and was heavy. The man fled in a dark car parked on the next block. The witness, fearful for his own life, ran home, and when a detective doing door-to-door interviews came to his house, the witness gave him the above information.

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MURDER ONE SOLUTION SHEET

Note: Items printed in boldface indicate why the suspect could not have committed the crime. Everyone is eliminated except . . .

Name	Height	Weight	Age	Blood Type	Occupation at 7 p.m. (free to make phone call)	Occupation at 10 p.m. (free to commit murder)
Viron, Benjamin ("Benjie")	5'4"	220	49	B	unknown	unknown
Enopac, Alphonse ("Jumbo")	5'7"	245	52	A	unknown	unknown
Ollag, Joseph ("Chills")	5'7½"	180	52	A	near social club	unknown
Phelps, James ("Digger")	5'7"	210	52	B	conducting union meeting	unknown
Sutter, Edward ("Blue Eyes")	5'7"	240	51	B	near social club	unknown
Lagas, Franklin ("Hot Dog")	5'7"	235	50	B	near betting office	in custody of Joint Task Force
Aifam, George ("Gypsy")	5'7½"	245	39	B	near betting office	unknown

■ THE SALES MANAGER'S JOURNEY: GROUP PROBLEM SOLVING

Goals

- To study the sharing of information in a task-oriented group.
- To examine the various types of member behavior that emerge as a group works on solving a problem.

Group Size

One or more subgroups of five to seven participants each.

Time Required

One and one-half hours.

Materials

- A copy of The Sales Manager's Journey Instruction Sheet for each participant.
 - A set of information sheets for each group. Each set contains the following:
 - One copy of The Sales Manager's Journey Information Sheet 1.
 - One copy of The Sales Manager's Journey Information Sheet 2.
 - One copy of The Sales Manager's Journey Information Sheet 3.
 - One copy of The Sales Manager's Journey Information Sheet 4.
 - One copy of The Sales Manager's Journey Information Sheet 5.
 - One copy of The Sales Manager's Journey Information Sheet 6 (if needed).
 - One copy of The Sales Manager's Journey Information Sheet 7 (if needed).
 - *Note:* Sheets 1 through 5 constitute a complete set in that they contain all information necessary to solve the problem involved in the activity; it is essential that all five be distributed to each subgroup. However, sheets 6 and 7 consist of information duplicated from previous sheets and should be used only when there are more than five participants in a subgroup.
- A copy of The Sales Manager's Journey Reaction Form for each participant.
- A copy of The Sales Manager's Journey Solution Sheet for each participant.
- A pencil for each participant.

Physical Setting

A room large enough that the members of each subgroup may sit in a circle and work without disturbing any other subgroups. Writing surfaces of some type should be provided.

Process

1. The facilitator asks the participants to form subgroups of five to seven each and requests that the members of each subgroup be seated in a circle.
2. Copies of The Sales Manager's Journey Instruction Sheet are distributed, and the participants are asked to read this handout.
3. A set of information sheets is distributed to each subgroup in such a way that each member receives a different sheet. Pencils are also distributed, and then the subgroups are instructed to begin their task. (Thirty minutes.)
4. After thirty minutes, even if all subgroups have not arrived at a solution, the participants are instructed to stop their work. Copies of The Sales Manager's Journey Reaction Form are distributed, and the participants complete this form individually. (Fifteen minutes.)
5. The members of each subgroup are asked to discuss the issues dealt with on the reaction form. (Fifteen minutes.)
6. The facilitator reassembles the total group, reveals the correct answer (695 Burrs), gives a copy of The Sales Manager's Journey Solution Sheet to any participant who wants one, and answers questions about the way in which the solution was derived. The activity concludes with a discussion that focuses on the reaction form and emphasizes the sharing and processing of information in task-oriented groups.

Variations

- Subgroups of more than seven participants may be accommodated by creating additional duplicate-information sheets.
- Competition among subgroups may be generated and pressure created by announcing that "scores" will be assigned to the groups on the basis of speed and/or accuracy in solving the problem. The following is an example of a point structure that might be used with this approach:
 - Each subgroup starts with 200 points.
 - After ten minutes each subgroup loses 5 points for each additional minute it takes to solve the problem.
 - Any subgroup that reaches an incorrect solution loses 50 points.
 - The first subgroup to arrive at the correct solution is awarded 70 points, the second is awarded 60, the third is awarded 50, and so forth.

- The facilitator may assist in solving the problem by providing the following hints, either at intervals during the task or in response to incorrect solutions.
 - All of the information you have been given is correct and means precisely what it says.
 - How do you know the route taken by the sales manager?
 - The sales manager may have visited the same town more than once.
- The problem may be simplified by removing the redundant and unnecessary facts from the information sheets or by simplifying the route itself.

This adaptation of “Lutts and Mipps” was submitted by Guy Fielding.

THE SALES MANAGER'S JOURNEY INSTRUCTION SHEET

Lapps, mapps, and napps represent a new international distance measurement; similarly, *burrs, currs, and durrs* represent a new system of time measurement. The task of your subgroup is to determine as quickly as possible how many durrs it took the sales manager for Mighty Micro, a growing electronics firm, to drive from Town A to Town G. Each subgroup member will be given an information sheet containing part of the data necessary to solve this problem; your subgroup as a whole will have all of the information necessary to solve the problem.

To accomplish this task, you may organize your subgroup in any way you wish. You will probably find that it is more efficient to tell your fellow members the relevant information you have been given than simply to show your data sheet to them.

THE SALES MANAGER'S JOURNEY INFORMATION SHEET 1

1. The road between D and E is a standard, four-lane highway.
 2. It took the sales manager 5 currs, 7 durrs to drive from B to D.
 3. There are approximately 100 durrs in an hour.
 4. There are 5 napps in a mapp.
 5. The distance between A and B is 12 napps.
 6. The country between A and B is hilly, and the road is narrow and twisting; therefore, progress is generally slow.
 7. The distance between F and G is 9 mapps.
 8. It took the sales manager 0.9 burrs to drive from C to B.
 9. The distance from E to G is 6 mapps.
 10. The route between F and G is a cross-country road that is straight, little used, and in good condition.
-

THE SALES MANAGER'S JOURNEY INFORMATION SHEET 2

1. It is 18 napps from B to C.
2. The sales manager drove from D to E at an average speed of 32 napps per burr.
3. The route between E and F is a recently completed highway.
4. A napp is equal to approximately two kilometers.
5. After arriving at E, the sales manager had a 45-durr break before continuing.
6. The distance from A to C is 4 mapps, 3 napps.
7. The distance from D to G is 23 napps.
8. A curr is 10 durrs.
9. At an average speed of 30 napps per burr, it took the sales manager 6 currs to drive from B to C.
10. The sales manager stopped at C for a 40-durr break.

THE SALES MANAGER'S JOURNEY INFORMATION SHEET 3

1. A durr is 100 frons.
 2. A mapp is a measure of distance.
 3. It is 18 napps from B to D.
 4. After arriving at F, the sales manager stopped for 6 currs.
 5. The sales manager's average speed on the journey between E and F was 54 napps per burr.
 6. The car supplied by Mighty Micro is a standard American make.
 7. The sales manager's average speed while driving from A to B was 24 napps per burr.
 8. The distance from C to D is 21 napps.
 9. It is 3 mapps, 3 napps from B to C.
 10. There is a great deal of heavy, commercial traffic on the road from C to D.
-

THE SALES MANAGER'S JOURNEY INFORMATION SHEET 4

1. It is 4 mapps, 4 napps from D to E.
2. The sales manager drove from B to C at an average speed of 30 napps per burr.
3. The sales manager drove from F to D at 40 napps per burr.
4. The sales manager has been traveling this route regularly for eighteen months.
5. The sales manager stopped at C for 4 currs.
6. It took the sales manager 75 durrs to drive from F to D.
7. The road from C to D is usually quite congested, with many heavy trucks using it as a route to railroad centers.
8. The distance from C to E is 7 mapps, 4 napps.
9. The sales manager has been working for Mighty Micro for a little more than two years.
10. The distance from C to D is 21 napps.

THE SALES MANAGER'S JOURNEY INFORMATION SHEET 5

1. A burr is 10 currs.
 2. It is 27 napps from E to F.
 3. It took the sales manager 9.3 currs to drive from D to G.
 4. Because of the work waiting at the office, the sales manager was anxious to complete the trip and return as quickly as possible.
 5. A lapp is 10 mapps.
 6. A burr is a unit of time measurement.
 7. Bad weather conditions forced the sales manager to drive more slowly than usual on this trip.
 8. While driving from C to B, the sales manager was caught in a traffic jam caused by road construction, which caused a delay of 20 durrs.
 9. It is 30 napps from D to F.
 10. It is 45 napps from F to G.
-

THE SALES MANAGER'S JOURNEY INFORMATION SHEET 6

1. It is 2 mapps, 2 napps from A to B by the shortest route.
2. The sales manager drove from D to E at an average speed of 32 napps per burr.
3. The sales manager stopped at E for 45 durrs.
4. It is 18 napps from B to D.
5. Because of bad weather, the overall trip took longer than usual.
6. It took the sales manager 75 durrs to drive from F to D.
7. The route the sales manager used on this occasion was the usual one.
8. A curr is 10 durrs.
9. One hour is about 100 durrs.
10. It took the sales manager 0.9 burrs to drive from C to B.

THE SALES MANAGER'S JOURNEY INFORMATION SHEET 7

1. It is 23 napps from A to C.
2. After reaching F, the sales manager had a short break of 60 durrs.
3. While driving from A to B, the sales manager averaged 2.4 napps per curr.
4. The road from B to C has been gradually improved over the last few years; bends have been straightened, and the road has been widened. However, construction is still taking place.
5. The route between E and F is almost entirely a four-lane highway.
6. There are 5 napps per mapp.
7. The towns of D and E are 24 napps apart.
8. The sales manager has made rapid progress within the company and recent success suggests that another promotion is likely.
9. A napp is a measure of distance.
10. It is 5 mapps, 2 napps from E to F.

THE SALES MANAGER'S JOURNEY REACTION FORM

1. Who participated most in your subgroup?

2. Who participated least?

3. How was participation organized within your subgroup? Who organized it? To whom did the subgroup look for leadership?

4. Which behaviors helped your subgroup to accomplish the task?

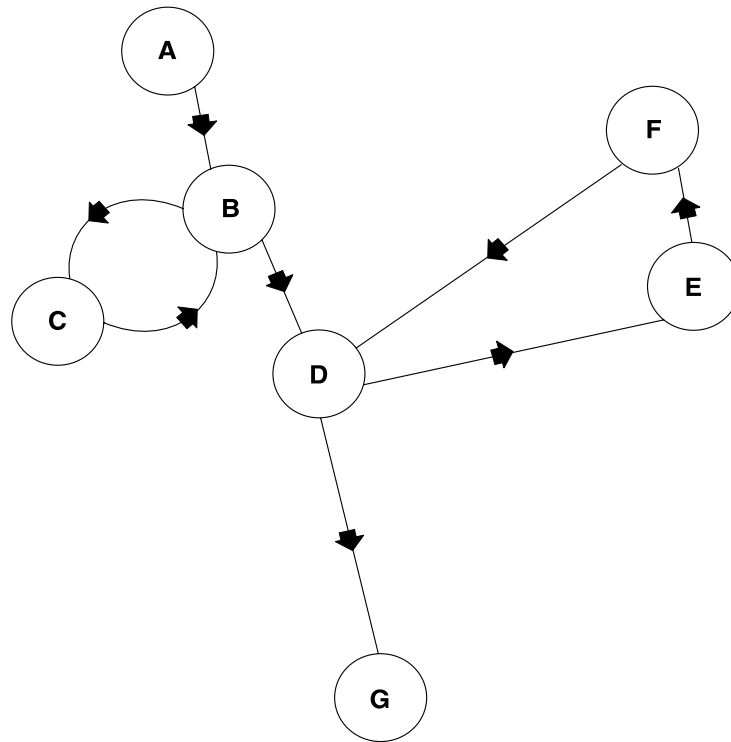
5. Which behaviors hindered your subgroup in accomplishing the task? What conflicts emerged?

6. How did your subgroup use the information provided?

7. How did the nature of the information affect the task? the dynamics in the subgroup?
8. What process did your subgroup follow in solving the problem?
9. If an individual were to tackle this problem alone, how might his or her problem-solving process differ from the process used by your subgroup?
10. If you had to complete another activity of this kind, how could you improve your subgroup's performance?

THE SALES MANAGER'S JOURNEY SOLUTION SHEET

The Route Taken



The Solution

Stage	Distance (Napps)	Speed (Napps per Burr)	Time (Durrs)
A to B	12	24	50
B to C	18	30	60
C (pause)	—	—	40
C to B	18	—	90
B to D	18	—	57
D to E	24	32	75
E (pause)	—	—	45
E to F	27	54	50
F (pause)	—	—	60
F to D	30	40	75
D to G	24	—	93
Total			695

Information to be calculated (formula: time = distance x rate of speed)

—

Information not supplied

■ ENERGY INTERNATIONAL: A PROBLEM-SOLVING MULTIPLE ROLE PLAY

Goals

- To study how task-relevant information is shared within a group.
- To observe problem-solving strategies within a group.
- To explore the effects of collaboration and competition in group problem solving.

Group Size

Up to six subgroups of five participants each. These subgroups may be directed simultaneously in the same room.

Time Required

Approximately two hours.

Materials

- A set of five Energy International Data Sheets for each group of participants. Each sheet is coded by the number of dots ranging from one to five following the second sentence in the first paragraph. Each sheet contains data unique to that sheet.
- One copy of the Energy International Candidate Summary Sheet for each participant.
- One copy of the Energy International Briefing Sheet for each participant.
- One copy of the Energy International Problem Solution for each participant.

Physical Setting

A room large enough so that the individual subgroups can work without being disrupted by other subgroups and without being influenced by solutions overheard from other subgroups. An alternative physical setting would be a room large enough to hold all participants comfortably during instructions and post-problem-solving processing and several smaller rooms where individual groups could work undisturbed during the problem solving.

Process

1. The facilitator explains to the participants that they will be doing an exercise in problem solving and divides them into subgroups of exactly five each. (The use of observers is optional.)
2. The facilitator instructs the subgroups to choose the correct candidate for an executive position based on the data they will receive. He or she suggests that there is one correct solution and cautions them that they must reach their solution independently from other subgroups. The facilitator indicates that when subgroups have completed the problem solving and have given their solution to the facilitator, participants may observe other subgroups still in process; however, they may not join another subgroup or influence another subgroup's process in any way.
3. The facilitator distributes the Energy International Candidate Summary Sheets, the Energy International Briefing Sheets, and individual Energy International Data Sheets to each participant, taking care that all five differently coded sheets (number of periods at the end of the first paragraph) have been distributed in each subgroup.
4. The subgroups begin the problem solving process when the facilitator gives the signal. An element of competition may be incorporated by posting solutions in order of completion and posting the number of minutes used by each subgroup in solving the problem.
5. When all subgroups have found a solution to the problem, the facilitator distributes the Energy International Problem Solution to each participant and processes the experience with the whole group, focusing on problem-solving strategies employed, the effects of collaboration and competition, and the sharing process.

Note: It is expected that the facilitator will adapt these materials to fit the needs of particular groups. Any appropriate problem with a unique solution could be generated from the background of the participants; then, the facilitator could “work backwards” to create the individual briefing sheets with varied information that, when shared, can result in the correct solution. The experience can be designed to be simple or complex by decreasing the redundancy of the information so that groups using more complex versions must share more unique data to find the solution. Another possible variable could be group size.

ENERGY INTERNATIONAL DATA SHEET

Your group is a committee made up of the General Managers of Energy International, a young, medium-sized, growing organization. The prime mission of E.I. is to locate and develop mineral claims (copper, uranium, cobalt, etc.).

The company's business has grown very rapidly, especially in South America, where your organization has been made welcome by the governments. In a recent meeting, the board of directors decided to develop a new property near Fortaleza, in northeastern Parrador. This operation will include both mining and milling production.

The date is April 1, 1993. You have come from your respective plants in different locations. This is the initial session of your annual meeting. Your first order of business today is to select a new General Manager for the Parradoran plant from among the candidates on the attached list.

Fortaleza, Parrador, has a hot climate, one railroad, a scheduled airline, a favorable balance of trade, a feudal attitude toward women, considerable unemployment, a low educational level, a low literacy rate, and a strongly nationalistic regime.

The government has insisted that the company must employ Parradorans in all posts except that of General Manager. The government has also installed an official inspector who will make monthly reports to the government. This report must be signed by the company's representative, who must be a Fellow of the Institute of Mineralogy.

There are a number of schools offering degrees in mineralogy; the most recently founded is the Ryan Institute of Earth Sciences. This Institute was established under a special grant and opened in 1965. In order to earn a bachelor's degree in mineralogy, this school requires geology, seismology, and paleontology, in addition to the usual courses.

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The government has ruled that the company must employ Parradorans in all posts except that of manager. It has also installed an official inspector, who will make a monthly report that must be countersigned by the General Manager. By law, the General Manager must have had at least three years experience as a manager in charge of a mining operation.

There are a number of schools offering a degree in mineralogy, a degree essential to qualify for General Membership in the Institute of Mineralogy. The smaller universities require three, the larger four, of the following special subjects as a part of their graduation requirements: geology, geophysics, oceanography, paleontology, seismology. The smallest is a women's university.

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The government has ruled that the company must employ Parradorans in all posts except that of manager. It has also installed an official inspector, who will make a monthly report that must be countersigned by the company's representative. None of the government inspectors can read or write any language but Parradoran.

There are a number of schools offering degrees in mineralogy, but a passing grade in paleontology is essential to qualify for General Membership in the Institute of Mineralogy. The largest university is the New Bisbee School of Mines, which requires the following special subjects for graduation: geology, paleontology, geophysics, and seismology.

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The government has ruled that the company must employ Parradorans in all posts except that of manager. It has also installed an official inspector, who will make a monthly report that must be countersigned by the company's representative. None of the company's employees or staff can read or write any language but Parradoran.

There are a number of schools offering degrees in mineralogy, and a passing grade in seismology is essential to qualify for General Membership in the Institute of Mineralogy. The Midway Institute of Sciences requires the following special subjects for graduation: geology, seismology, oceanography, and paleontology.

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The company's business has grown very rapidly, especially in South America, where your organization has been made welcome by the governments. In a recent meeting, the board of directors decided to develop a new property near Fortaleza, in northeastern Parrador. This operation will include both milling and milling production.

The date is April 1, 1993. You have come from your respective plants in different locations. This is the initial session of your annual meeting. Your first order of business today is to select a new General Manager for the Parradoran plant from among the candidates on the attached list.

Fortaleza, Parrador, has a hot climate, one railroad, a scheduled airline, a favorable balance of trade, a feudal attitude toward women, considerable unemployment, a low educational level, a low literacy rate, and a strongly nationalistic regime.

The government has ruled that the company must employ Parradorans in all posts except that of manager. It has also installed an official inspector, who will make a monthly report to the government that must be countersigned by the company's representative, who must be an American citizen.

Fellowship in the Institute of Mineralogy can be obtained by men over 35 years of age who have otherwise qualified for General Membership in the Institute. Saltan University, which is not the smallest school, requires the following special courses for graduation: paleontology, geophysics, and oceanography.

ENERGY INTERNATIONAL BRIEFING SHEET

Instructions to the Group:

1. You are a committee incorporating all of the General Managers of Energy International.
2. You have just flown into town.
3. This is the first meeting of the group.
4. You have just learned that E.I. will open a new Parradoran plant, and your first job is to select a General Manager from among the seven applicants.
5. Basically, the data you bring with you are in your head.

Assumptions Which Need to be Made Explicit:

1. Assume that there is one solution.
2. Assume that all data are correct.
3. You have one hour to work the activity.
4. Assume that today's date is April 1, 1993.
5. There must be substantial agreement when the problem has been solved.
6. You must work the problem as a group.

ENERGY INTERNATIONAL CANDIDATE SUMMARY SHEET

NAME: R. Illin
DATE OF BIRTH: March 2, 1958
PASSPORT: L3452, U.S.A.
EDUCATION: New Bisbee School of Mines, degree in mineralogy, 1978
EMPLOYMENT: Research Assistant, New Bisbee School of Mines, 1979-1981
Lecturer, Mineralogy, University of Bonnell, 1987-1991
Manager, Utah Copper Mining Co. Plant, 1991 to date
LANG. COMMAND: English, French, German, Parradoran

NAME: S. Hule
DATE OF BIRTH: May 4, 1949
PASSPORT: H4567, U.S.A.
EDUCATION: Ryan Institute of Earth Sciences, degree in mineralogy, 1975
EMPLOYMENT: Uranium Unlimited, management trainee, 1975-1977
Anaconda Copper Co., Montana area, geology officer, 1978-1985
Manager, Irish Mining Co., Ltd., 1985 to date
LANG. COMMAND: English, French, Parradoran

NAME: T. Gadolin
DATE OF BIRTH: June 5, 1950
PASSPORT: L7239, U.S.A.
EDUCATION: New Bisbee School of Mines, degree in mineralogy, 1975
EMPLOYMENT: United Kingdom Mining Board, management trainee, 1975-1977
Assistant Manager, N.D.B. Cheshire plant, 1978-1986
Manager, Idaho Cobalt Minerals, 1986 to date
LANG. COMMAND: English, Parradoran

NAME: U. Samar
DATE OF BIRTH: April 6, 1958
PASSPORT: H6259, U.S.A.
EDUCATION: Midway Institute of Sciences, degree in mineralogy, 1979
EMPLOYMENT: Junior Engineer, W. Valatia Mining Research Station, 1979-1988
General Manager, Libertain State Mining Plant, 1988 to date
LANG. COMMAND: English, German, Swahili, Parradoran

NAME: V. Lute
DATE OF BIRTH: August 6, 1955
PASSPORT: K62371, U.S.A.
EDUCATION: New Bisbee School of Mines, degree in mineralogy, 1976
EMPLOYMENT: Junior Development Mineralogist, Untario Mining Construction, Ltd., 1976-1979
Assistant Chief Mineralogy Officer, Caledon Development Board, 1980-1983
Plant Manager, Walsh Mining Co., Ltd., 1984 to date
LANG. COMMAND: English, French, Welsh, Pekingese

NAME: W. Noddy
DATE OF BIRTH: August 7, 1948
PASSPORT: H63241, U.S.A.
EDUCATION: Saltan University, degree in mineralogy, 1973
EMPLOYMENT: Assistant Manager, Societé Debunquant D'Algerie, 1973-1977
Manager, Kemchatka Mining Co., 1978 to present
LANG. COMMAND: English, Parradoran, Russian, Arabic

NAME: X. Lanta
DATE OF BIRTH: September 8, 1975
PASSPORT: Q123YB, Canada
EDUCATION: Univ. of Québec, Diploma in English, 1975
Midway Institute of Sciences, degree in mineralogy, 1978
EMPLOYMENT: Technical Officer, Sardinia Mining Corp., 1980-1988
Manager, Moab Valley Mining Plant, 1988 to date
LANG. COMMAND: Spanish, English, Parradoran

ENERGY INTERNATIONAL PROBLEM SOLUTION

Name	Age	Education	Nationality	Language	
				Spoken	Experience
Illin	35	New Bisbee School of Mines	American	Parradoran	<u>2 years</u>
Hule	42	<u>Ryan Inst. of Earth Sciences</u>	American	Parradoran	7 years
Gadolin	41	New Bisbee School of Mines	American	Parradoran	6 years
Samar	<u>33</u>	Midway Inst. of Sciences	American	Parradoran	5 years
Lute	36	New Bisbee School of Mines	American	<u>No Parradoran</u>	9 years
Noddy	43	<u>Saltan University</u>	American	Parradoran	14 years
Lanta	36	Univ. of Québec	<u>Canadian</u>	Parradoran	4 years

The Ryan Institute of Earth Sciences and Saltan University require three special subjects for graduation and are therefore smaller than the Midway Institute of Sciences or the New Bisbee School of Mines. Saltan is not the smallest; therefore the Ryan Institute of Earth Sciences must be. This makes Ryan a women's university. Parradorans hold a feudal attitude toward women.

Seismology and paleontology are essential for General Membership. Saltan does not offer seismology; therefore no graduate of Saltan can qualify for General Membership.

None of the Parradoran staff understands English, nor do the government inspectors; therefore, before the General Manager can countersign the inspector's report, he or she must be able to read Parradoran.

Each candidate except Gadolin is disqualified because of lack of the qualifications outlined.

■ FARM E-Z: A MULTIPLE ROLE PLAY, PROBLEM-SOLVING ACTIVITY

Goals

- To study the sharing of information in task-oriented groups.
- To learn to distinguish a true problem from those that are only symptomatic.
- To observe problem-solving strategies within a group.

Group Size

Up to six subgroups of five participants.

Time Required

Approximately two hours.

Materials

- For each five-person subgroup, the following packets are prepared. Each contains the two sheets coded GNL (General) and the sheets specific to the given role:
 - New Products Coordinator (NPC): 3 sheets
 - Sales Manager (SM): 12 sheets
 - Chief Engineer (CE): 4 sheets
 - Manufacturing Superintendent (MFG): 7 sheets
 - Manager of Accounting (ACCT): 4 sheets
 - Each package also contains a name tag for that role.
- A copy of the Farm E-Z Problem Classification Sheet for each participant.
- A copy of the Farm E-Z Problem Categorization Sheet for each participant.
- Pencils for all participants.
- A copy of the Farm E-Z Process Observation Form for each observer (if observers are to be used).

Physical Setting

One room large enough that the five-person subgroups can work without being disrupted or influenced by other subgroups. Or, one room large enough to hold all participants for

instructions and final discussion, and several smaller rooms where subgroups can work undisturbed during the problem solving.

Process

1. The facilitator establishes subgroups of five by any appropriate method.
2. The facilitator distributes the sets of five packets to each subgroup and explains that, throughout the problem-solving experience, each team member will play the role designated on his or her name tag. The materials in the packet are designed to assist in that role. The facilitator announces that the subgroup is to begin its meeting in ten minutes and to use this time to study the information in the packet.
3. After the designated study period the subgroups begin the problem-solving phase. (A minimum of forty-five minutes is allowed for this step.)
4. The facilitator distributes copies of the Farm E-Z Problem Classification Sheet and directs the subgroups to follow its instructions.
5. After all subgroups have completed the classification task, copies of the Farm E-Z Problem Categorization Sheet are distributed. Subgroups are instructed to compare their classifications with the “appropriate” ones.
6. Subgroups are instructed to develop generalizations about the processes that emerged during their original work phase.
7. The facilitator elicits generalizations from each subgroup about problem-identification strategies.
8. The importance of information sharing and symptoms versus real problems is discussed.

Variations

- Observers can be assigned to subgroups to make notes on the problem-solving styles of each. (A sample process observation form is included with the handouts.)
- The content can be changed to be more relevant to a specific group.
- The classification of problem areas (step 4 in the process) can be done individually or by group consensus.
- The group size can be increased to six, with the additional role being the General Manager, who calls the meeting.

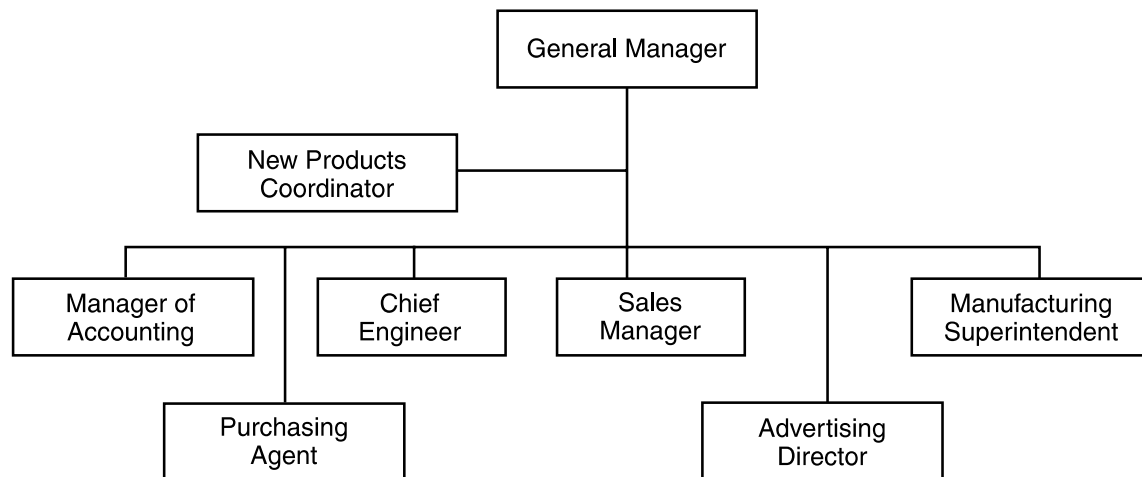
Submitted by Jon L. Joyce.

FARM E-Z ITEM GNL-1

For this activity in problem solving, you hold the position listed on your packet and name tag.

Background

Farm E-Z has been in operation for fifteen years, serving the East and portions of the Midwest. It has become well established as a producer of a line of on-the-farm feed grinding and mixing equipment. Annual sales are approximately \$4 million. The Farm E-Z production plant in Huntersville employs forty-five people. The following is a partial organization chart of the company:



Present Situation

Last year Farm E-Z introduced a new product, a grinder-blower. Priced at about \$100 over the market, the new product was designed with some unique and desirable features. One of these, the load-control device, was a special invention of Farm E-Z. The grinder-blower and the grinder-mixer are marketed through thirty-five distributors on whom Farm E-Z's ten sales representatives call.

Although profits at first were as projected, there has been a decided slump during the past six months. The New Products Coordinator, at the urging of the General Manager, has called a meeting to determine why profits on this new product have turned to losses. That meeting is scheduled to begin ten minutes from now. The purpose of the meeting will be to try to identify the problem and search for the best solution to it.

Before the meeting, look over the attached correspondence. It includes correspondence sent to you and by you to others. The top item of correspondence is an urgent memo from the General Manager to all senior managers. Other items of correspondence will provide you with background information to prepare you for the meeting.

FARM E-Z ITEM GNL-2

FARM E-Z MEMORANDUM

URGENT

TO: Senior Managers
FROM: General Manager

SUBJECT: Losses on grinder-blower

Immediate consideration needs to be given to the critical situation regarding losses on the grinder-blower, which we introduced a year ago. Records of sales, costs, and profit/loss by quarters over the past year are as listed below:

Quarter	Number Sold	Gross Sales	Direct Cost	Profit/Loss
2nd, last year	185	\$110,000	\$93,000	+ \$17,000
3rd, last year	180	108,000	92,400	+ 15,600
4th, last year	90	54,000	76,200	– 22,200
1st, this year	75	45,000	73,500	– 28,500

Obviously, we have not regained the 2nd and 3rd quarter trend toward profit. Neither were we correct in assuming that the winter months were “just lagging” in profits. I am asking this group to find out what the real problems are.

FARM E-Z ITEM NPC-1

FARM E-Z MEMORANDUM

TO: New Products Coordinator
FROM: Purchasing Agent

SUBJECT: Grinder-blower

We just received a report that the Switch Company will probably be on strike within a week, and that it will be a long one!

The Switch Company has been supplying the bearings for the grinder-blower since we began to produce it last year. We ought to make sure that we need this high-quality bearing because prices have increased considerably in the last six months.

If you could convince the Chief Engineer and the Manufacturing Superintendent to make some changes in the bearing specs, the cost problem—and profit problem—of the grinder-blower would be solved. I can get a good quality main support bearing for at least \$35 less each (\$70 per grinder-blower) and with an assured supply, if they will only change their specs slightly.

FARM E-Z ITEM NPC-2

New Products Coordinator
Farm E-Z, Inc.
Huntersville

Dear New Products Coordinator:

I have been a distributor of Farm E-Z's products for nearly all the years that Farm E-Z has been in business, and I have never run into a problem like the one we have been having with the grinder-blower. It has trouble with the load control, mostly. I know your company is working on that and I am sure it will be solved.

Also, your grinder-blower is priced too high. For \$100 less, farmers in our area can buy a competitive product that will do the job just as well as yours. And, I can make more, if I wanted to, by selling the Mix-Well line. Their margin is a lot more than the 15% margin we get on yours.

It's not causing me a great deal of trouble, because not many are buying it, and I only keep one or two on hand . . . but it must be a real headache for you. I understand from the Sales Manager that you are the one responsible for this new machine and I thought I'd drop you a line to suggest that you might want to re-think the problems of cost and margin. Maybe the thing just ought to be dropped. Hope this has helped.

Sincerely,

Chris Dodson,
Farm E-Z Distributor

FARM E-Z ITEM NPC-3

General Manager
Farm E-Z, Inc.
Huntersville

Dear General Manager:

I have been a customer of Farm E-Z for ten years and have been highly satisfied with all the products I've bought from you. And now, you introduce a new grinder-blower, just at the time when I was considering buying one. When I saw the ads, I thought, "Great!" Then I saw the price. Your other products don't seem to be overpriced, but \$700 for the grinder-blower is a bit much—especially when I compared prices and discovered that not one well-known brand comes even within \$50 of your cost. Most are about \$100 less.

I'd surely like to buy Farm E-Z, but a dollar is a dollar. Can something be done about the price?

Sincerely yours,

Terry Gillmore,
Profittown

FARM E-Z ITEM SM-1

FARM E-Z MEMORANDUM

TO: Sales Manager

FROM: Advertising Director

SUBJECT: Grinder-blower

I would like to suggest to you that we might increase profits on the grinder-blower by further advertising that would increase sales.

If the advertising budget could be upped just 4% for the next three months, we could increase our advertising as follows:

- Increase direct mail advertising 10%
- Add several radio spots in crucial farm areas
- Increase magazine advertising 3%

That, plus a new tack in the advertising—to suggest that the grinder-blower is better than any other and that's why it costs a bit more—ought to do the trick!

FARM E-Z ITEM SM-2

General Manager
Farm E-Z, Inc.
Huntersville

Dear General Manager:

Last summer I bought one of your new grinder-blowers, having heard about its tremendous value from a neighbor of mine. I had also seen a couple of your ads. However, I am disgusted with the thing. I have had the Distributor service it three times. They keep trying to repair it, but we don't seem to get it working for long. Inasmuch as I'm not getting anywhere with them, I thought I would write directly to you.

The problem isn't a very big one, I guess. It's the load control that keeps breaking down. It does cause great inconvenience and loss of valuable time. After all, when you pay as much as \$700 for a thing like that, you expect it to work!

Do something about it, please.

Sincerely yours,

Dale Pearson

FARM E-Z ITEM SM-3

FARM E-Z MEMORANDUM

TO: Sales Manager

FROM: Manufacturing
Superintendent

SUBJECT: Returns of Grinder-blowers

For your information: We have had to take back, from dissatisfied customers, a good number of grinder-blowers over the past three quarters. Returns, since the product was introduced a year ago:

<u>QUARTER</u>	<u>NUMBER RETURNED</u>
2nd quarter, last year	None
3rd quarter, last year	3
4th quarter, last year	6
1st quarter, this year	8

We have been forced to take these back because the sales representatives have not been competent in handling complaints from customers.

FARM E-Z ITEM SM-4

TELEGRAM

GENERAL MANAGER FARM E-Z INC STOP WHAT ARE YOU TRYING TO DO TO US
ANYWAY STOP I AM GETTING FED UP WITH TRYING TO FIND OUT ANYTHING IN
THIS COMPANY STOP ALL I GET OUT OF YOUR SALESPEOPLE IS PRESSURE TO
SELL YOUR NEW PRODUCTS BUT NO HELP STOP IF YOU REALLY WANTED US TO
SELL YOUR NEW GRINDER BLOWER YOU WOULD PROVIDE A DECENT
DISTRIBUTOR MARGIN STOP CANCELLING DISTRIBUTORSHIP CONTRACT
IMMEDIATELY STOP A.M. HUTCHINSON FARM E-Z DISTRIBUTOR

FARM E-Z ITEM SM-5

FARM E-Z MEMORANDUM

TO: Sales Manager

FROM: Sales Representative Petroski

Been thinking about the new grinder-blower.

You know, part of the problem might be that you are not offering enough incentive to the Farm E-Z sales force. \$20 per unit is not much when you consider the size of the average purchase. Maybe everyone would get out and work harder if the personal reward were greater.

You know the old story about the carrot?

FARM E-Z ITEM SM-6

FARM E-Z MEMORANDUM

TO: Sales Manager

FROM: Manufacturing Superintendent

SUBJECT: Production Capability

The production capability of our plant, as presently set up, is 105 of the grinder-blowers per month. We have not been geared to this, although we could handle 105. Originally, because of sales projections, we produced 90 each of the first six months it was on the market. In December, we reduced production to 80. In February, we cut back to 50.

If we could change our plant set-up, we could possibly produce as many as 175 a month, should the market warrant such production.

It is possible that our present set-up may need revision, anyway, in order to continue present production capabilities. New Union rules as to job descriptions indicate that we may need to hire a few more new employees to work on the grinder-blower. (We already know we need three more workers to keep up production of other lines.)

Can sales sustain a production of 175 units per month twelve months from now?

FARM E-Z ITEM SM-7

FARM E-Z MEMORANDUM

TO: Sales Manager

FROM: General Manager

SUBJECT: Sales Force Turnover

What is happening to our sales representatives? My memory has been jogged on the losses we have been having when I studied the payroll list this morning. So, I looked it up and discovered that we lost two good sales representatives three years ago, three good ones two years ago, and four good ones last year. Why? Can't something be done to correct this?

FARM E-Z ITEM SM-8

FARM E-Z MEMORANDUM

TO: Sales Manager

FROM: General Manager

SUBJECT: Grinder-blower

While I think that your advertising of the grinder-blower has just been “all right,” I don’t think it’s been up to the usual good work you and the Advertising Director produce.

Think about ways we can strengthen our advertising on it and bring me some ideas.

A few thoughts that occurred to me:

- Emphasize its economy even more than you have.
 - Compare it to our biggest competitor, by name—use engineering details.
 - Develop testimonials from happy customers (users).
 - Develop more promotional material for distributor use.
-

FARM E-Z ITEM SM-9

FARM E-Z MEMORANDUM

TO: Sales Manager

FROM: H.L. Dropwatter, Sales Representative

SUBJECT: Grinder-blower

I need some help. I’ll be at the plant office next week, but I thought I’d send this memo in advance so maybe we can get our heads together to come up with some answers for me.

The problem is this: Distributors are reporting customer irritation with the grinder-blower. Apparently, it’s nothing terribly serious—but it is causing a lot of service calls. And—I frankly don’t know how to handle the distributors or the customers (I’ve encountered a few really “hot” ones) on this.

Plus, distributors are not at all interested in emphasizing the grinder-blower to their customers. They say that it’s too much trouble to fix the part causing most of the problems. I’ve told distributors over and over the advantages of selling our grinder-blower, but they don’t seem convinced.

See you next week.

FARM E-Z ITEM SM-10

Sales Manager
Farm E-Z, Inc.
Huntersville

Dear Sales Manager:

I've been a Farm E-Z distributor for over ten years now, and I can't remember a time when I ever wrote the company with a complaint. This one isn't really earth-shaking, but it has been persistent over the past year or so and I thought I'd call it to your attention so you can do something about it. It may help you—and it will certainly help me if something can be done.

The sales representatives who have called on me over this past year just plain don't seem to know what they're talking about—especially in terms of that grinder-blower you started sometime last year.

Can you do something about this? I do like the new sales representatives—don't get me wrong. I just can't get the proper information out of them. I've told the new person that I was going to write to you.

Sincerely yours,

Carson Treadwile

FARM E-Z ITEM SM-11

FARM E-Z MEMORANDUM

TO: Sales Manager

FROM: Kelly Matthison,
Sales Representative

SUBJECT: Groaning About Grinders

Our new grinder-blower isn't doing so well. My distributors just can't seem to move them. And they are also wondering why we took on the line. I keep telling them it's a big new profit opportunity but they don't seem to be interested in expanding their line. Anyway, sales don't look so good this month. I'd sure like some advice on how to get this thing moving. I'll call you in a few days.

FARM E-Z ITEM SM-12

FARM E-Z MEMORANDUM

TO: Sales Manager

FROM: Willie Johnston, Sales Representative

Just wanted you to know that this looks like a good month for our grinder-blower. Distributor Ken Perkins has sold five this month alone. With only two weeks of the month gone, I am already over quota.

I think it's a great product.

FARM E-Z ITEM CE-1

FARM E-Z MEMORANDUM

TO: Chief Engineer

FROM: Manufacturing Superintendent SUBJECT: Grinder-blower

The problem of assembling the grinder-blower seems to get worse, not better. The process you designed for the final assembly of the grinder-blower involves way too much backtracking. Machines and workers seem to just run around, back and forth. It is a real problem—and a waste of time and effort that is undoubtedly causing some of the profit loss we are experiencing.

Therefore, I suggest that you redesign the process. I'll be glad to consult with you on it. It is probably the key to the problems we are having with the machine.

The workers in the plant, I am sure, will be able to produce more efficiently with a simpler process—a straight one with no backtracking. They complain about this a lot—and I can see that it slows them down, too.

FARM E-Z ITEM CE-2

FARM E-Z MEMORANDUM

TO: Chief Engineer

FROM: Staff Engineer

SUBJECT: Production of Grinder-blower

I have been studying the problem of profit loss on the grinder-blower.

It seems to me that we could cut production costs if we did the following:

- Combine the stamping processes for stamping shell and top cover into one instead of two processes. This would cut waste by 15%.
- Use another alloy in the gears (I've just found a better, cheaper alloy) which would cut costs 10%.
- Rearrange the assembly so that flailer is assembled just prior to installation rather than separately. This would save time, and, I estimate, cut costs 5%.

These changes would require only minimal change in the production line, but would offer these benefits:

- Make the machine more durable.
 - Cut production costs by 20%.
-

FARM E-Z ITEM CE-3

FARM E-Z MEMORANDUM

TO: Chief Engineer

FROM: Project Engineer

SUBJECT: Grinder-blower

I know we have been getting a lot of complaints about the new load-control device. We have now completed a considerable amount of rechecking to determine if there were some problems in the device that we were unaware of. The tests included some 450 hours of running time using the new load control. We encountered absolutely no trouble.

On all of the load controls returned because of customer complaints we have found faulty adjustment. Admittedly, the new load control is a more sophisticated piece of equipment than the distributors have encountered to date, but that is no excuse for the shoddy service work they have been performing to date.

Anyway, all of the problems seem to be in getting the field service technicians to make the proper adjustments on the equipment when it is installed and at service-call intervals.

FARM E-Z ITEM CE-4

General Manager
Farm E-Z, Inc.
Huntersville

Dear General Manager:

After four service calls to have the load control on my new Farm E-Z grinder-blower fixed, I told your distributor to keep the damn thing and that I was going to write to you to register a complaint. In fact, I've been so mad I have thought of suing you for false advertising. Your distributor encouraged me to write to you.

Anyway, the load control on the thing is just plain faulty. And I just don't have time to fool around with it. Just when you need it, it quits!

You keep this up and Farm E-Z will be a bad name around here. I've a neighbor who has the same trouble with his, and I've heard from a few others the same thing.

Disgustedly yours,

Tom MacFarland

FARM E-Z ITEM MFG-1

FARM E-Z MEMORANDUM

TO: Sales Manager
FROM: Manufacturing Superintendent
SUBJECT: Returns of Grinder-blowers

For your information: We have had to take back, from dissatisfied customers, a good number of grinder-blowers over the past three quarters.

Returns, since the product was introduced a year ago:

<u>QUARTER</u>	<u>NUMBER RETURNED</u>
2nd quarter, last year	None
3rd quarter, last year	3
4th quarter, last year	6
1st quarter, this year	8

We have been forced to take these back because the sales representatives have not been competent in handling complaints from customers.

FARM E-Z ITEM MFG-2

FARM E-Z MEMORANDUM

TO: Sales Manager

FROM: Manufacturing
Superintendent

SUBJECT: Production Capability

The production capability of our plant, as presently set up, is 105 of the grinder-blowers per month. We have not been geared to this, although we could handle 105. Originally, because of sales projections, we produced 90 each of the first six months it was on the market. In December, we reduced production to 80. In February, we cut back to 50.

If we could change our plant set-up, we could possibly produce as many as 175 a month, should the market warrant such production.

It is possible that our present set-up may need revision, anyway, in order to continue present production capabilities. New Union rules as to job descriptions indicate that we may need to hire a few more new employees to work on the grinder-blower. (We already know we need three more workers to keep up production of other lines.)

Can sales sustain a production of 175 units per month twelve months from now?

FARM E-Z ITEM MFG-3

FARM E-Z MEMORANDUM

TO: Manufacturing Superintendent

FROM: General Foreman

SUBJECT: Discontent in Plant

I want to advise you that there has been considerable upset among the workers in the plant during the past three months over the change in prework coffee time.

When the workers were permitted to have a cup of coffee in the lunch room and exchange the morning's news before beginning their day's work, they seemed content.

Now, since that privilege has been removed—along with the coffee pot—they spend a good bit of time grumbling each morning. It appears, from what I hear and see, that they get started working later than they used to. I wonder if this is not reducing efficiency and productivity.

Please advise.

FARM E-Z ITEM MFG-4

FARM E-Z MEMORANDUM

TO: Manufacturing Superintendent

FROM: Purchasing Agent SUBJECT: Switch Company—
Possible Strike

The other day we had a telephone call from the Shipping Agent of the Switch Supply Company saying that they are anticipating a shut-down strike in a week. They expect the strike would last no longer than six weeks. They wanted to know how many main bearings we can order now so that they can supply us out of their present inventory.

I checked inventory: We have only 1,000 bearings in stock.

FARM E-Z ITEM MFG-5

FARM E-Z MEMORANDUM

TO: Chief Engineer

FROM: Manufacturing SUBJECT: Grinder-blower
Superintendent

The problem of assembling the grinder-blower seems to get worse, not better. The process you designed for the final assembly of the grinder-blower involves way too much backtracking. Machines and workers seem to just run around, back and forth. It is a real problem—and a waste of time and effort that is undoubtedly causing some of the profit loss we are experiencing.

Therefore, I suggest that you redesign the process. I'll be glad to consult with you on it. It is probably the key to the problems we are having with the machine.

The workers in the plant, I am sure, will be able to produce more efficiently with a simpler process—a straight one with no backtracking. They complain about this a lot—and I can see that it slows them down, too.

FARM E-Z ITEM MFG-6

Manufacturing Superintendent
Farm E-Z, Inc.
Huntersville

Dear Manufacturing Superintendent:

I am calling to your attention—again!—that we of Producers Union are getting increasingly more upset by the complaints of the employees working in your production plant.

The pitch of the complaining is getting even higher. I do not like to be a trouble-maker, but rather a trouble-shooter, and I thought I would write to you, once more, to let you know that I think the grumbling from the workers is about at the explosion point. I'd like to think that, together, we can solve this problem.

It seems that the workers are quite upset over the changes that keep coming in the production of the grinder-blower. They have been trained for their jobs, and these continuing changes in production and assembly leave them feeling as if they are incompetent. Really, they are not; but they are entitled, by contract, to having the same, secure job.

I suggest that you look into this immediately. It appears that this might be reducing efficiency for you. It certainly is causing us problems. I will investigate further.

Sincerely yours,

Union Steward

FARM E-Z ITEM MFG-7

FARM E-Z MEMORANDUM

TO: Manufacturing Superintendent

FROM: Manager of Accounting SUBJECT: Profit loss on Grinder-blower

Urgently call to your attention the surplus parts inventory we are carrying for the grinder-blower. At present, we have a \$50,000 inventory that we are not using. The interest on that capital investment amounts to \$3,000 a year in profits!

FARM E-Z ITEM ACCT-1

FARM E-Z MEMORANDUM

TO: Manufacturing Superintendent

FROM: Manager of Accounting SUBJECT: Profit loss on Grinder-blower

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FARM E-Z ITEM ACCT-2

FARM E-Z MEMORANDUM

TO: Manager of Accounting

FROM: Purchasing Agent

SUBJECT: .018" Sheet Steel
for Grinder-blower

We have just been advised by the United Steel Company that the sheet steel we are using on the grinder-blower will go up, effective the first of next month—3%.

In reviewing the records on .018" sheet steel, I note that the price has gone up three times since we began producing the grinder-blower:

- August—1%
- October—an additional 1%
- December—another 2%

And, now, this new rise. I call it to your attention, aware that profits on the grinder-blower are in serious trouble.

FARM E-Z ITEM ACCT-3

FARM E-Z MEMORANDUM

TO: Manager of Accounting

FROM: Purchasing Agent

SUBJECT: Alloys in Grinder-blower

Not only has the cost of the alloy used in the gears of the grinder-blower gone up, but we are having a difficult time keeping our receiving records in agreement with their shipping records and invoices. The cost of the alloy rose 2% last month.

FARM E-Z ITEM ACCT-4

FARM E-Z MEMORANDUM

TO: Manager of Accounting

FROM: Bookkeeper

SUBJECT: Expense Accounts

You asked me to keep an eye on sales representatives' expense accounts and report any unusual rises.

Two months ago there was an increase in expense account total of 1½%—but I wasn't concerned because I knew general costs were rising.

However, last month, and again this month, expense account charges have gone up considerably:

- Last month—up 3%
- This past month—up another 3%

FARM E-Z PROBLEM CLASSIFICATION SHEET

Instructions: Classify each of the following problem statements into one of the four categories by placing an “x” in the appropriate columns.

<i>Problem Area</i>	<i>Symptom</i>	<i>True Problem</i>	<i>Future Problem</i>	<i>Not Relevant</i>
1. Distributors and sales representatives not satisfied with the new line	_____	_____	_____	_____
2. Insufficient training on servicing the load control	_____	_____	_____	_____
3. Sales representatives who cannot explain to the distributor how to sell the grinder-blower	_____	_____	_____	_____
4. Rate of service calls for load control	_____	_____	_____	_____
5. Insufficient sales training on marketing the product	_____	_____	_____	_____
6. Distributors not pushing the new line	_____	_____	_____	_____
7. Insufficient distributor training on marketing the product	_____	_____	_____	_____
8. Insufficient advertising	_____	_____	_____	_____
9. Sales-force turnover	_____	_____	_____	_____
10. Production capabilities	_____	_____	_____	_____
11. Distributor cancellation	_____	_____	_____	_____
12. Grinder-blower returns	_____	_____	_____	_____
13. Complaints about over-priced grinder-blower	_____	_____	_____	_____
14. Union complaint	_____	_____	_____	_____
15. Grinder-blower assembly	_____	_____	_____	_____
16. Switch company strike	_____	_____	_____	_____
17. Bearing quality	_____	_____	_____	_____
18. Prework coffee time	_____	_____	_____	_____
19. Gear alloy	_____	_____	_____	_____
20. Sales representatives' expense accounts	_____	_____	_____	_____
21. Cost of steel	_____	_____	_____	_____
22. Surplus stock inventory	_____	_____	_____	_____
23. Sales incentives	_____	_____	_____	_____
24. Distributor margin	_____	_____	_____	_____

FARM E-Z PROBLEM CATEGORIZATION SHEET

Following are listed the appropriate problem classifications. Compare them with the ones you selected on the Farm E-Z Problem Classification Sheet.

<i>Problem Area</i>	<i>Symptom</i>	<i>True Problem</i>	<i>Future Problem</i>	<i>Not Relevant</i>
1. Distributors and sales representatives not satisfied with the new line	<u> X </u>	<u> </u>	<u> </u>	<u> </u>
2. Insufficient training on servicing the load control	<u> </u>	<u> X </u>	<u> </u>	<u> </u>
3. Sales representatives who cannot explain to the distributor how to sell the grinder-blower	<u> X </u>	<u> </u>	<u> </u>	<u> </u>
4. Rate of service calls for load control	<u> X </u>	<u> </u>	<u> </u>	<u> </u>
5. Insufficient sales training on marketing the product	<u> </u>	<u> X </u>	<u> </u>	<u> </u>
6. Distributors not pushing the new line	<u> X </u>	<u> </u>	<u> </u>	<u> </u>
7. Insufficient distributor training on marketing the product	<u> </u>	<u> X </u>	<u> </u>	<u> </u>
8. Insufficient advertising	<u> </u>	<u> </u>	<u> </u>	<u> X </u>
9. Sales-force turnover	<u> X </u>	<u> </u>	<u> </u>	<u> </u>
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14. Union complaint	<u> </u>	<u> </u>	<u> X </u>	<u> </u>
15. Grinder-blower assembly	<u> </u>	<u> </u>	<u> X </u>	<u> </u>
16. Switch company strike	<u> </u>	<u> </u>	<u> X </u>	<u> </u>
17. Bearing quality	<u> </u>	<u> </u>	<u> </u>	<u> X </u>
18. Prework coffee time	<u> </u>	<u> </u>	<u> </u>	<u> X </u>
19. Gear alloy	<u> </u>	<u> </u>	<u> </u>	<u> X </u>
20. Sales representatives' expense accounts	<u> </u>	<u> </u>	<u> </u>	<u> X </u>
21. Cost of steel	<u> </u>	<u> </u>	<u> </u>	<u> X </u>
22. Surplus stock inventory	<u> </u>	<u> </u>	<u> </u>	<u> X </u>
23. Sales incentives	<u> </u>	<u> X </u>	<u> </u>	<u> </u>
24. Distributor margin	<u> </u>	<u> X </u>	<u> </u>	<u> </u>

FARM E-Z PROCESS OBSERVATION FORM

Instructions: During the upcoming problem-solving process, you are to write your answers to the following questions. Be sure to record who did what.

Organization

1. How did the team members get started?

2. Who assumed leadership responsibilities? How did this come about?

3. How did the team members begin sharing their resources?

4. What procedures did they develop to solve the problem?

The Flow of Information

5. How did the team members expose all of the information about the problem?

6. Which pieces of information were accepted? Which were rejected?

7. How was the information collated or compiled?

The Processing of the Information

8. How did the team stay on track?

9. What decision rules emerged?

10. What visual aids were employed?

11. How was consensus achieved and tested?

Critique

12. How did the team discuss its own functioning?

13. What climate emerged in the meeting?

■ FARMERS: INFORMATION SHARING

Goals

- To demonstrate the effects of collaboration and information sharing in problem solving.
- To explore aspects of collaboration such as verbal communication and division of labor.

Group Size

A maximum of four subgroups of seven to ten members each.

Time Required

Approximately two hours.

Materials

- A copy of the Farmers Task-Force Instruction Sheet for each participant.
- A copy of the Farmers Judge Sheet for each judge.
- A copy of the Farmers Observer Sheet for each observer.
- A set of the Farmers Bits of Information Sheets for each subgroup. (Each set contains six different sheets, cut apart.)
- A pencil for each judge and each observer.
- Newsprint and a felt-tipped marker.

Physical Setting

A room in which all subgroups can work without disturbing one another or, preferably, a small room for each subgroup.

Process

1. The facilitator leads a brief discussion of cooperation and collaboration, then introduces to the participants an opportunity to explore some aspects of collaboration through actual experience. (Five minutes.)
2. The facilitator divides the participants into approximately equal subgroups of at least seven members each. Six members of each subgroup are designated as a “task force” and the seventh member as a “judge.” The remaining members in each subgroup are

told that they will act as observers. (If there are only seven members in a subgroup, the judge also serves as the observer.)

3. Each participant is given a copy of the Farmers Task-Force Instruction Sheet, and each subgroup is assigned to a different location.
4. While the task-force members study their instructions, the judges and observers are instructed to gather around the facilitator, leaving their task forces at their separate locations. The facilitator gives each judge a copy of the Farmers Judge Sheet and a pencil and gives each observer a copy of the Farmers Observer Sheet and a pencil. Time is allowed for them to study the material and ask questions. (Ten minutes.)
5. The facilitator gives each judge a set of the Farmers Bits of Information Sheets and sends all members back to their subgroups.
6. The facilitator tells the subgroups that they have twenty minutes in which to complete their tasks and then tells the judges to begin.
7. When the subgroups have finished their tasks, or when more than twenty minutes has elapsed, the facilitator calls time and assembles all members, keeping the task forces together. The facilitator then solicits reports from the observers for each subgroup. (Up to five minutes per report, fifteen minutes total.)
8. The facilitator instructs the members to discuss their reactions to the experience within their subgroups. (Ten minutes.)
9. The facilitator leads a general discussion to help participants review how the various subgroups approached and organized the task (division of labor, emergence of leadership, exchange of information), comparing and contrasting various task-force group processes.
10. In their subgroups, participants are directed to identify helping and hindering factors that affect collaboration. (Ten minutes.)
11. Subgroup reports are made to the total group. The facilitator helps to develop a list of principles of collaboration and cooperation based on the subgroup reports. (Ten minutes.)
12. Each participant is instructed to develop an individual action plan to apply the principles learned from the experience to other problem-solving situations. (Five minutes.)
13. The action plans are shared in the large group or with one or two other participants in pairs or trios. (Ten minutes.)

Variations

- If a task force is composed of only five members, the Farmers Bits of Information Sheets are cut into five pieces and distributed to the five members.

- If task forces are composed of more than six members, the Farmers Bits of Information Sheets can be cut into single items and distributed among the members until all thirty bits are handed out.
- If after ten minutes a task force appears to be unable to make any visible progress, the facilitator can offer the following clue: “Since it is forbidden to write, it becomes increasingly difficult for a single individual to remember all the necessary data as well as to process it.” If after a few minutes it becomes obvious that this clue did not help, the facilitator can add another clue as follows: “It may be worthwhile to arrange yourselves physically according to the locations of the houses in the village.”

Submitted by Aharon Kuperman.

FARMERS TASK-FORCE INSTRUCTION SHEET

1. Your group's judge will tell you when and how to begin working.
2. Each member of the task force will receive written bits of information. These are not to be shown to others.
3. What will be required of you, and how to go about it, will become clear as you share information with the other members of your task force, through verbal communication only.
4. When you and your coworkers feel that the required tasks have been completed, call the judge to check your results.
5. If your tasks have been only partially completed, or if you have done more than what was required, the judge will consider the tasks as being totally incomplete. In that case, you will be required to keep working without the benefit of knowing which part of your task, if any, has been completed satisfactorily.
6. The following rules will be observed throughout this activity:
 - a. From the moment the task force begins work, members may speak to other task-force members only.
 - b. You may not show others the contents of your written bits of information.
 - c. You may not write anything.
 - d. You must obey the judge's instructions.
7. You will have twenty minutes in which to complete your task.

FARMERS JUDGE SHEET

1. Your job is to enforce the rules and judge the task force's solution.
2. Study carefully the Farmers Task-Force Instruction Sheet. Ask the task-force members if they have read and understood their instructions and answer any questions before they begin to work.
3. When the task force is ready, give each member a separate set of items from the Farmers Bits of Information Sheets and tell the members to begin working. Record the time at which they begin.
4. Enforce the rules, e.g., do not allow the task-force members to write anything.
5. If the subgroup tells you that the task has been completed, check whether or not the answers are correct:
 - a. Skinner drives (or owns) a truck.
 - b. Hull grows apples.
6. If the answers are correct, record the time at which the subgroup finished the task and report to the facilitator that your subgroup has finished.
7. If only one of the above answers is given to you or if the subgroup begins to recite additional answers (not asked for) such as "Skinner raises pigeons, grows almonds . . .," announce that the task is incomplete and instruct the members to keep on working until they finish with what was required of them or until the facilitator stops the activity.

FARMERS OBSERVER SHEET

1. Your job is to observe your task force's group processes, record them, and report your observations to the entire group.
2. Do not reach conclusions or attribute intentions and feelings to others. Simply describe what you actually see.
3. Read the Farmers Task-Force Instruction Sheet in order to familiarize yourself with the task and the ground rules. The task force is given bits of information from which it is to determine who drives a truck and who grows apples.
4. Use the following guide, add whatever seems pertinent, and consult the solution table below as an aid for your observations.

Individual

- a. Who initiates action, how is it done, and what is the action?
- b. Who contributes to or obstructs the task? How? Is the behavior effective?
- c. Other:

Group

- a. Did the members know and agree on the required tasks prior to beginning the problem solving or did they start working immediately?
- b. What patterns of communication developed?
- c. What procedures to solve the problem developed?
- d. How were the data gathered and compiled?
- e. What was the climate that emerged? Were there any turning points?
- f. Other:

Solution:

	Skinner	Thorndike	Pavlov	Kohler	Hull
<i>Animals</i>	pigeons	cats	dogs	chimpanzees	Albino rats
<i>Fruit</i>	almonds	plums	cherries	pears	*apples
<i>House</i>	bungalow	red brick	log cabin	cottage	ranch
<i>Location</i>	west	northwest	north	northeast	east
<i>Vehicle</i>	*truck	sports car	motorcycle	station wagon	limousine

*Items to be deduced by the task force.

FARMERS BITS OF INFORMATION SHEET (A)

- The dogs' owner lives next door to the house with a plum orchard.
 - Hull raises Albino rats.
 - The farmer who lives in the bungalow raises pigeons.
 - Only one of the village houses is located on the east side.
 - The farmer who lives next to Pavlov drives a station wagon.
-

FARMERS BITS OF INFORMATION SHEET (B)

- Pavlov's neighbor raises chimpanzees.
 - The farmer who raises dogs also grows cherries.
 - Skinner lives next to the red brick house.
 - One of your subgroup's tasks is to decide who drives a truck.
 - The houses of the village are standing in a semicircle, beside one another.
-

FARMERS BITS OF INFORMATION SHEET (C)

- Kohler grows pears.
 - There is a limousine in the garage of the ranch house.
 - Each farmer raises a different kind of animal.
 - Farmer Thorndike lives next to farmer Skinner.
 - A motorcycle stands in the back yard of the log cabin.
-

FARMERS BITS OF INFORMATION SHEET (D)

- The person who raises cats lives next door, to the east, of the house with the almond trees.
 - Your group has less than three tasks.
 - Every week boxes of dog food are placed at the gate of the log cabin.
 - Only one of the village houses is located on the west side.
 - Each of the five farmers living in the village drives a different kind of vehicle.
-

FARMERS BITS OF INFORMATION SHEET (E)

- The log cabin is in the northern position in the village.
 - Each farmer grows a different kind of fruit.
 - The ranch house stands next to the cottage.
 - Farmer Thorndike drives a sports car.
 - Farmer Skinner raises pigeons.
-

FARMERS BITS OF INFORMATION SHEET (F)

- Only farmer Skinner lives at the west end of the village.
 - There are Albino rats in the yard of the ranch house.
 - One of your group's tasks is to decide who grows apples.
 - Pavlov lives in the log cabin.
 - Each farmer lives in a different type of house.
-

■ KOHBAR: AN INFORMATION-SHARING MULTIPLE ROLE PLAY

Goals

- To study how information relevant to a task is shared within work groups.
- To observe problem-solving strategies within work groups.
- To explore the effects of collaboration and competition in group problem solving.
- To demonstrate the effects of hidden agendas on group decision making.

Group Size

Up to five subgroups of six members each.

Time Required

Approximately two hours.

Materials

- A set of five Kohbar Data Sheets for each subgroup, one sheet for each member except Colonel Brown. Each sheet is coded by the number of dots (from one to five) at the end of the first paragraph, and each sheet contains some data that are unique to that sheet.
- A Kohbar Map and a Kohbar Equipment-Specifications Summary Sheet for each participant.
- One Kohbar Biography Sheet for each subgroup member except those who play Colonel Brown (each receives only the biography for the character he or she is to role play).
- A set of all six Kohbar Biography Sheets (one for each of the six roles) for the member in each subgroup who will play Colonel Brown.
- Blank paper and a pencil for each subgroup member.
- One Kohbar Problem-Solution Sheet for each participant.

Physical Setting

A room large enough for all subgroups to work simultaneously without distracting or overhearing one another. (One large room may be used for instructional and processing phases, with smaller rooms available in which subgroups can work during the problem-

solving phase.) It is useful to provide a table and chairs for each subgroup, with extra chairs for observers, if used.

Process

1. The facilitator informs participants that they will be engaging in a problem-solving activity.
2. The facilitator divides the participants into subgroups of six. (Additional members may serve as observers.)
3. The facilitator explains that the subgroups' task is to recommend a type of armored personnel carrier (APC) to be purchased by the nation of Kohbar. He or she says that one type of APC is the best choice, considering all available data, but that each of the subgroups is to make its decision privately and independently.
4. The facilitator distributes materials, as follows:
 - A set of five different Kohbar Data Sheets is given to each subgroup, with each member except Colonel Brown receiving a differently coded sheet.
 - Each member of each subgroup (including Colonel Brown) receives a Kohbar Map and a Kohbar Equipment-Specifications Summary Sheet.
 - Each subgroup member except Colonel Brown receives a Kohbar Biography Sheet for the character he or she is to role play.
 - The Colonel Brown in each subgroup receives all six Kohbar Biography Sheets—one for each role in the subgroup.
 - All members are given blank paper and a pencil.
5. The facilitator informs members that their subgroup will have one hour in which to make a recommendation. He or she says that if a subgroup finishes before time is called, its members may silently observe other subgroups but are not to distract other members or join in another subgroup's process.
6. When all subgroups have completed their tasks, or at the end of the hour, the facilitator processes the experience through a discussion of the problem-solving strategies observed, the effects of collaboration and competition in the subgroup, the ways in which information was shared in the subgroup, and the effects that hidden agendas had on the subgroup process.
7. The facilitator then distributes the Kohbar Problem-Solution Sheet and discusses it.

Variations

- Observers may be assigned to specific subgroups to provide feedback on individual work styles or may circulate from subgroup to subgroup to provide more generalized data.

- The facilitator may stress competition between subgroups by posting the amount of time used by each subgroup in accomplishing its task and by posting the recommendation made by each subgroup.
- The facilitator may inform participants at the beginning that they each have different information on their data sheets.
- The data and problem may be tailored to a particular subgroup of participants, or they may be made more or less complex.

Submitted by Robert E. Mattingly.

KOHBAR DATA SHEET

Your group has been hurriedly called into session by Ambassador Neumann of Ednor. Last evening at a diplomatic function, His Highness Prince Dolar (oldest son of the ruler) indicated that the country of Kohbar was interested in purchasing armored personnel carriers (APCs) for its ground defense force.

Kohbar's principal antagonist and traditional enemy is the currently leftist People's Democracy of Drabar (PDD). PDD's army has recently acquired thirty Nandorian BTR-60P (BTR) personnel carriers. Ednor's foreign service agency, the FSA, reports that PDD is negotiating for the purchase of seventy additional BTRs with spare parts and advisers from Lobar. A force of this size would be capable of lifting two full-strength infantry battalions and their organic weapons. Such a capability might alter the precarious balance of power between Kohbar and PDD and is certainly of concern for prestige reasons.

The date is 1 July 1993. The ambassador has informed Prince Dolar that Ednor would prefer not to supply additional arms directly to Kohbar. The ruler has, however, asked that the Ednor Embassy provide his chief of staff with a recommended APC type. His government apparently intends to use this recommendation as a departure point for negotiations with the manufacturing country. Ambassador Neumann is scheduled to dine with both the ruler and Prince Dolar this evening and has promised to present a military appraisal at that time.

Background

Both Kohbar and PDD are located in the southern portion of the Faraway peninsula. The climate is hot and dry most of the year. Inasmuch as the two countries achieved their independence from colonial powers in the late 1940s, traditional rivalries have been exacerbated by the discovery of high-grade petroleum in the Kohbar coastal plain. The significant topographic features of the two nations are depicted on the map of Kohbar. The Wahwah River seldom rises higher than five feet but is fast moving. Rainfall is limited to the February-April period and averages six to eight inches per year.

Kohbar has agreed to limited airfield use by Ednor and Tetler, while PDD has provided similar facilities for the U.P.P., Lobar, and Nandor. The main desert areas are passable by both wheeled and tracked vehicles.

Bridging limitation on the major axis of any military advance is generally twenty tons. Excellent cross-country mobility in any vehicle purchased is highly desirable.

Small arms and ammunition stocks are predominately of Ednorian World War II vintage. The Kohbar rifle squad is composed of six infantry soldiers and a squad leader.

It is believed that Kohbar's actual requirement for APCs is militarily minimal. An increased anti-armor capability utilizing infantry-type weapons would be cheaper and just as effective. However, because prestige is involved and cost is not a problem, the purchase scheme will doubtless be pursued. A proven design is essential. The vehicle

must be able to cross the Wahwah River and have a close-in, antipersonnel armament capability.

A rough “shopping list” of five possible APC choices and comparison data for the BTR-60P are provided. The Defense Attaché Office working group is headed by Colonel R. Brown, Ednor Air Force, and includes Lieutenant Colonel A. Green, Ednor Army (Army attaché), Lieutenant Colonel S. Grey, Ednor Marine Corps (Naval attaché), Captain L. White, Ednor Army (adviser to the 1st Commando Battalion), Warrant Officer J. Red, Ednor Air Force (maintenance adviser to the Royal Kohbar Air Corps), and Mr. H. Black, assistant counselor for economics, Ednor Embassy. Mr. Black has a civilian rank equivalent to lieutenant colonel.

Colonel Brown will present the recommended type of APC to Ambassador Neumann at a private appointment scheduled in one hour.

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The Kohbar ground defense force is composed primarily of tough natives who are intensely loyal to the royal family of Kohbar. Until 1969 there were few vehicles of any type. Mechanical skills are generally low, and most maintenance is performed by Partsians on a contract basis. Current in-service vehicles are of Tetler and Ednor manufacture. Highly technological APCs could probably not be given adequate maintenance support.

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The Kohbar armed forces are composed of a ground defense force (Army) and a small air defense force (Royal Kohbar Air Corps). The Air Corps equipment consists exclusively of aircraft manufactured in Ednor and Tetler. Two fighter squadrons of F-104 Starfighters are operational. The pilots and ground crews are being trained by a 260-person South Mallean contingent, which provides a pool of maintenance experts.

Small arms and ammunition stocks are predominately of Ednorian World War II vintage. The Kohbar rifle squad is composed of six infantry soldiers and a squad leader.

It is believed that Kohbar's actual requirement for APCs is militarily minimal. An increased anti-armor capability utilizing infantry-type weapons would be cheaper and

just as effective. However, because prestige is involved and cost is not a problem, the purchase scheme will doubtless be pursued. A proven design is essential. The vehicle must be able to cross the Wahwah River and have a close-in, antipersonnel armament capability.

A rough “shopping list” of five possible APC choices and comparison data for the BTR-60P are provided. The Defense Attaché Office working group is headed by Colonel R. Brown, Ednor Air Force and includes Lieutenant Colonel A. Green, Ednor Army (Army attaché), Lieutenant Colonel S. Grey, Ednor Marine Corps (Naval attaché), Captain L. White, Ednor Army (adviser to the 1st Commando Battalion), Warrant Officer J. Red, Ednor Air Force (maintenance adviser to the Royal Kohbar Air Corps), and Mr. H. Black, assistant counselor for economics, Ednor Embassy. Mr. Black has a civilian rank equivalent to lieutenant colonel.

Colonel Brown will present the recommended type of APC to Ambassador Neumann at a private appointment scheduled in one hour.

KOHBAR DATA SHEET

Your group has been hurriedly called into session by Ambassador Neumann of Ednor. Last evening at a diplomatic function, His Highness Prince Dolar (oldest son of the ruler) indicated that the country of Kohbar was interested in purchasing armored personnel carriers (APCs) for its ground defense force....

Kohbar's principal antagonist and traditional enemy is the currently leftist People's Democracy of Drabar (PDD). PDD's army has recently acquired thirty Nandorian BTR-60P (BTR) personnel carriers. Ednor's foreign service agency, the FSA, reports that PDD is negotiating for the purchase of seventy additional BTRs with spare parts and advisers from Lobar. A force of this size would be capable of lifting two full-strength infantry battalions and their organic weapons. Such a capability might alter the precarious balance of power between Kohbar and PDD and is certainly of concern for prestige reasons.

The date is 1 July 1993. The ambassador has informed Prince Dolar that Ednor would prefer not to supply additional arms directly to Kohbar. The ruler has, however, asked that the Ednor Embassy provide his chief of staff with a recommended APC type. His government apparently intends to use this recommendation as a departure point for negotiations with the manufacturing country. Ambassador Neumann is scheduled to dine with both the ruler and Prince Dolar this evening and has promised to present a military appraisal at that time.

Background

Both Kohbar and PDD are located in the southern portion of the Faraway peninsula. The climate is hot and dry most of the year. Inasmuch as the two countries achieved their independence from colonial powers in the late 1940s, traditional rivalries have been exacerbated by the discovery of high-grade petroleum in the Kohbar coastal plain. The significant topographic features of the two nations are depicted on the map of Kohbar. The Wahwah River seldom rises higher than five feet but is fast moving. Rainfall is limited to the February-April period and averages six to eight inches per year.

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Kohbar has diplomatic missions in Jolar, South Malle, Gommor, Tetler, and Ednor. These countries, as well as Mopar, Fopaam, Partsan, Curran, and the Republic of Upaan, have representation in the capital of Milhelm.

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The capital city, Milhelm, is a rapidly developing port and commercial center. In order to foster reciprocal development of maritime ties with seafaring nations, the government has a long-standing policy of dealing with such countries to the exclusion of all others. Such relations are especially strong with Tetler and South Malle.

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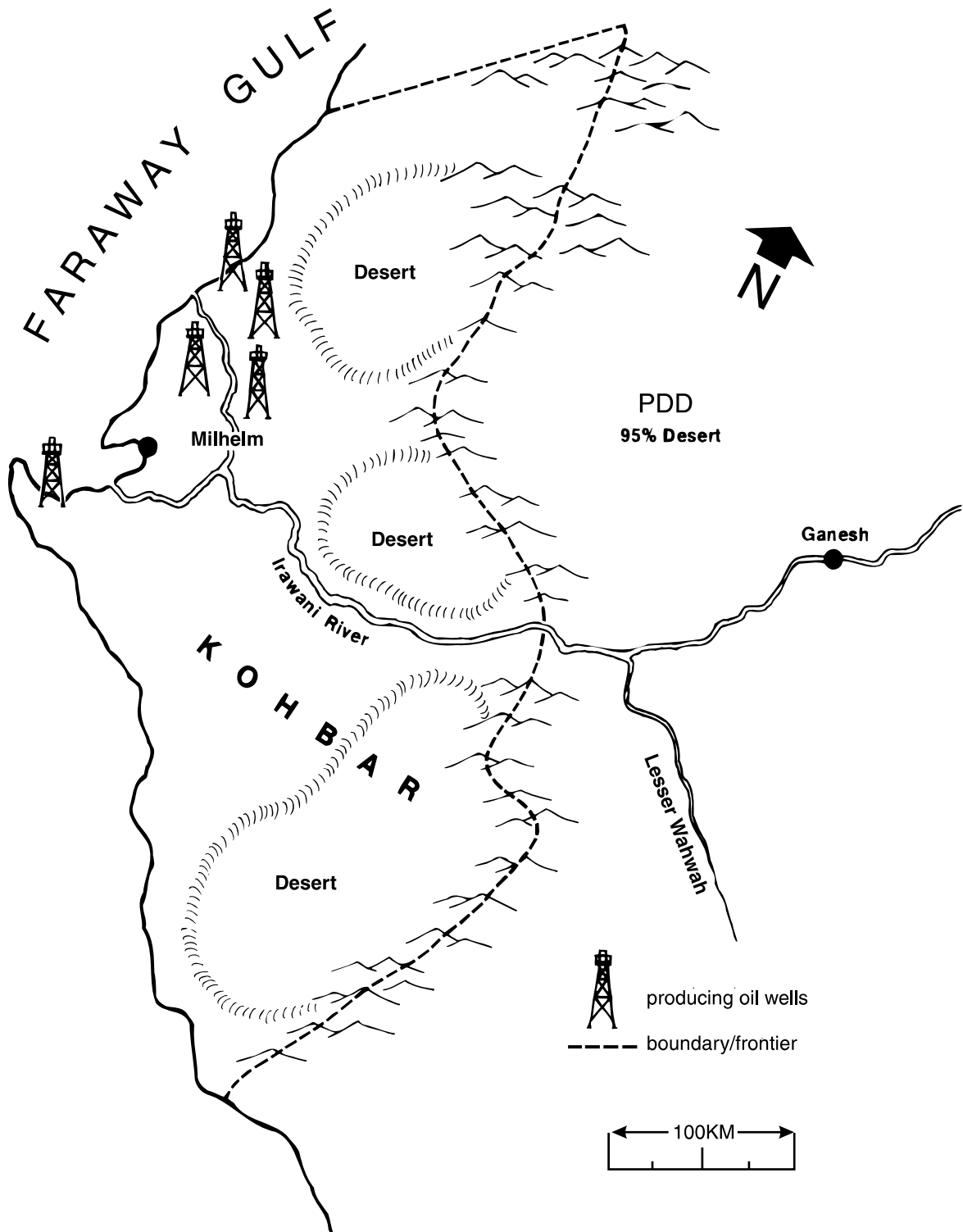
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Colonel Brown will present the recommended type of APC to Ambassador Neumann at a private appointment scheduled in one hour.

KOHBAR MAP



KOHBAR EQUIPMENT SPECIFICATIONS SUMMARY SHEET

BTR-60P (Nandor) (For Comparison Only)

Crew: 2

Troops: 12

Weight: 10 tons

Height: 2.3 meters

Length: 7.3 meters

Width: 2.8 meters

Road Speed/Range: 80 k.p.h./500 k.p.h.

Propulsion: 8 wheels on land, hydrojet in water, totally amphibious

Armament: 14.5 mm heavy machine gun and 7.62 mm light machine gun in turret
(manual traverse)

Power: Two 6-cylinder gasoline engines

Advantages: Fast road speed, amphibious capability, troop capacity.

Disadvantages: Poor cross-country mobility, troops must dismount from top hatches, very light overhead armor, limited night operational capability.

FV 432 APC (Tetler)

Crew: 2; 10 infantry soldiers

Weight: 15.1 tons

Height: 1.88 meters

Length: 5.1 meters

Width: 2.97 meters

Road Speed/Range: 52 k.p.h./580 k.p.h.

Power: 6-cylinder multifuel, automatic transmission

Armament: One 7.62 mm light machine gun, externally mounted

Propulsion: Fully tracked vehicle

Advantages: Proven design, in service with the Royal Armored Corps since 1965. Can be delivered with 105 mm "Wombat" antitank recoilless rifle, has good night-driving capability, has retriever and command-vehicle variants in production. Spare parts readily available. Good armor protection.

Disadvantages: Rather heavy, relatively slow, cross-country mobility only fair, no amphibious capability. Maintenance intensive.

Cost: 120,000 gold pieces each, including basic spare parts and track

Delivery: 12 months

Crew training: 12-14 weeks

APC M-1967 (New) (South Malle)

Crew: 3; 7 infantry soldiers

Weight: 28.2 tons

Height: 2.86 meters

Length: 7.79 meters

Width: 3.27 meters

Road Speed/Range: 70 k.p.h./600 k.p.h.

Power: 6-cylinder, turbocharged diesel

Armament: One 20 mm cannon in rotating turret, two 7.62 mm light machine guns, firing ports for infantry soldiers

Propulsion: Fully tracked vehicle

Advantages: Wading ability to 2 meters, excellent fire power. Good cross-country mobility, conventional steering, exceptional crew protection and comfort (including ventilation systems and sleeping provision). Full night operational capability. Probably the best all-around APC.

Disadvantages: Very heavy, perhaps overengineered, no amphibious capability, no retriever variant, maintenance intensive.

Cost: 950,000 gold pieces each, exclusive of spare parts

Delivery: 12-14 months

Crew training: 16-20 weeks

APC Type 60 (Improved) (Mopar)

Crew: 2; 8 infantry soldiers

Weight: 12 tons

Height: 1.7 meters

Length: 4.85 meters

Width: 2.4 meters

Road Speed/Range: 45 k.p.h./490 k.p.h.

Power: V-8 diesel

Armament: .50 caliber heavy machine gun in external mount, .30 caliber light machine gun in hull

Propulsion: Fully tracked vehicle

Advantages: Very low ground pressure, good cross-country mobility, extremely reliable, can be fitted with Ednor-manufactured TOW antitank, wire-guided missile system.

Disadvantages: No amphibious capability, crew comfort is nil, engine compartment and fuel side-by-side near troops, small exit hatches.

Cost: 400,000 gold pieces each, exclusive of spare parts

Delivery: 6-8 months

Crew training: 10-12 weeks

AMX-10P APC (Jolar)

Crew: 2; 9 infantry soldiers

Weight: 12.5 tons

Height: 2.37 meters

Length: 5.86 meters

Width: 2.78 meters

Road Speed/Range: 65 k.p.h./620 k.p.h.

Power: Water cooled, multifuel

Armament: 20 mm cannon, 17.62 mm light machine gun (both in enclosed turret)

Propulsion: Fully tracked (a wheeled variant is undergoing tests at present)

Advantages: Excellent cross-country mobility, fully amphibious, excellent fire power, good power-to-weight ratio, currently in full production for Jolarian army. An outstanding future appears to await this vehicle.

Disadvantages: A new vehicle not fully debugged, no variants in production, although a number are planned, including a retriever and command vehicle. 20 mm gun had some initial development problems.

Cost: 1,200,000 gold pieces each, exclusive of spare parts

Delivery: 8-10 months (est.)

Crew training: 10-12 weeks

HG Pbv 302 (Gommore)

Crew: 2; 10 infantry soldiers

Weight: 13.5 tons

Height: 2.5 meters

Length: 5.4 meters

Width: 2.86 meters

Road Speed/Range: 65 k.p.h./300 k.p.h.

Power: 6-cylinder, supercharged diesel

Armament: 20 mm automatic cannon in handwheel traverse turret

Propulsion: Fully tracked

Advantages: Superior cross-country mobility, excellent armor protection, fully amphibious, high power/weight ratio. Variants include: retriever, command vehicle, bridge layer, artillery-fire control vehicle. Exits through both rear and top. One of the best designed and executed APCs extant.

Disadvantages: No antipersonnel armament (machine guns), relatively short range, hand turret traverse.

Cost: 380,000 gold pieces (est.), exclusive of spare parts

Delivery: 12-14 months

Crew training: 16-18 weeks

KOHBAR BIOGRAPHY SHEET

Warrant Officer J. Red, Ednor Air Force

Warrant Officer Red was born 9 November 1957. He enlisted in the Army in 1974 and left the Army as a sergeant in 1977. Red immediately joined the Ednor Air Force. Trained as a maintenance systems noncommissioned officer, Airman Red rapidly proved to be particularly successful in organizing programs to keep A1E propeller-driven aircraft operational. Promoted to staff sergeant in 1979 and master sergeant in 1981, he spent a total of thirty-six months as a maintenance adviser to the Pilamian Air Force.

Returning to Ednor in 1983, Master Sergeant Red was appointed a warrant officer and assigned to Offutt Air Force. In 1985, Warrant Officer Red completed his degree at a community college. He has attended numerous technical schools and is considered the most knowledgeable member of the Ednor Embassy staff on maintenance matters. Warrant Officer Red arrived in Kohbar eighteen months ago and has established an outstanding working relationship with the Mallean Air Force advisers and technicians who service the Kohbar F-104 Starfighters. He has expressed interest in employment with the Mallean contract firm after his retirement in 1994. Colonel Brown is particularly fond of Red and values his judgment.

Both Lieutenant Colonel Green and Lieutenant Colonel Grey regard Red as an excellent mechanic but as totally unmilitary. Red is married and has two small children who reside in the Ednorian compound.

KOHBAR BIOGRAPHY SHEET

Lieutenant Colonel S. Grey, Ednor Marine Corps

Lieutenant Colonel Grey was born in 26 May 1950. He received his degree in 1971. Following graduation, Second Lieutenant Grey was commissioned in the Marine Corps Reserve and reported to The Basic School for duty.

During the first ten years of his service with the Marines, he was posted to infantry units of the 2nd and 3rd Marine Divisions. Promoted to first lieutenant in 1973 and captain in 1976, he filled virtually all of the command and staff billets in a Marine rifle battalion.

Captain Grey attended the Amphibious Warfare School in 1979, graduating first in a class of 157 officers. Following a tour of duty as commanding officer, Marine Detachment, *E.S. Little Ship* (a cruiser), Captain Grey reported to the 1st Marine Division in Pilam. As a company commander and battalion executive officer, Captain Grey participated in a number of major combat operations. He was promoted to major in 1981.

On his return to Ednor, Major Grey attended the Armed Forces Staff College. From 1983 to 1986, Major Grey was assigned to the Marine Corps Development Center where he was project manager for a series of infantry weapons development projects. Selected for promotion to lieutenant colonel in 1987, he was in the midst of a tour as commanding officer, 2nd Battalion, 5th Marines, when ordered to attaché duty.

Lieutenant Colonel Grey arrived in Kohbar 15 September 1989. He is married and has three children. The Grey family resides in the Ednorian compound in Milhelm. Lieutenant Colonel Grey is a close friend of Mr. Black and Captain White. He considers his tour with the attaché office an interesting but basically unproductive pause in his career.

KOHBAR BIOGRAPHY SHEET

Captain L. White, Ednor Army (Armor)

Captain White was born on 26 March 1962. In 1980, White was appointed to the Ednor Military Academy and graduated in 1984, electing to be commissioned in the Armor branch.

After completing the Ranger School, Second Lieutenant White attended the Armor Officer's Basic Course. While at the school, he wrote a strategic assessment of the Faraway states that was published in a professional magazine.

Lieutenant White served as a tank platoon commander in an Armor battalion of the 8th Ednor Army in Upaan during 1985-86. He attended the Ednor Army basic intelligence officer course in 1987, graduating second in a class of 134 junior officers. Following an assignment as assistant brigade intelligence officer with the 1st Cavalry Division, he was promoted to captain and transferred to his current duties as adviser to the Kohbar 1st Commando Battalion.

Captain White has been in Kohbar since October 1989. He is well liked and respected by the native soldiers and has learned a fair amount of the native language. He is very popular with the Ednor Embassy secretaries.

Captain White is well respected by Lieutenant Colonel Grey. Lieutenant Colonel Green appears to resent his Military Academy education and his image as the *bon vivant* of the embassy cocktail circuit.

KOHBAR BIOGRAPHY SHEET

Lieutenant Colonel A. Green, Ednor Army (Infantry)

Lieutenant Colonel Green was born on 25 February 1950. He enlisted in the Army in 1968. On completion of recruit training, Private Green attended the Airborne School and was assigned to a parachute battalion in Malle. Rising to the rank of sergeant, he applied for Officer Candidate School in 1971. After graduation, Second Lieutenant Green was assigned as an infantry officer with the 82nd Airborne Division where he commanded a platoon, served as company executive officer and as a battalion assistant supply officer. He was promoted to first lieutenant in 1972 and captain in 1975.

After attending the Infantry School in 1976, Captain Green joined the 173rd Airborne Brigade where he served as a company commander and battalion logistics officer. In 1977, he volunteered for duty with the Special Forces. Following the completion of thirteen months of advanced training, Captain Green served with the 5th Special Forces Group in Isla. After a nine-month Pilamian language course, Captain Green commanded a Special Forces Detachment in a province in Pilam.

In 1980, Captain Green returned to Ednor and served as a Special Forces School instructor until 1983. He was promoted to major 1 October 1981.

Major Green served as battalion operations officer and brigade logistics officer with the 1st Cavalry Division in Pilam during 1983-84. He is a graduate of the Command and General Staff College. Promoted to his present rank in 1986, Lieutenant Colonel Green served on the Ednor Army, Pacific, staff prior to being assigned to Kohbar. He is a tough taskmaster and is physically fit. Lieutenant Colonel Green has completed ninety-seven credits toward his bachelor's degree. He speaks Pilamian fluently and has developed a good knowledge of other languages. Married in 1975, he was divorced in 1983. He has no children. Lieutenant Colonel Green feels he does most of the work in the Attaché Office and that Colonel Brown is a tired old man.

KOHBAR BIOGRAPHY SHEET

Mr. H. Black, Assistant Counselor for Economics Embassy of Ednor, Kohbar

Born on 9 October 1956, Mr. Black attended the Choate University.

After graduation in 1978 (A.B. in history), Mr. Black studied at Tundry College and briefly at the University of Burgh. In 1980, Mr. Black was accepted in the junior officer training program of the Ednor Foreign Service Agency.

After an initial period of training at FSA headquarters, Mr. Black attended the intensive language courses of the Foreign Service Institute. He served in the political section of the Ednorian Embassy in Dusamas until that mission was closed in June 1982. Since that time, Mr. Black has had three other posts. His current assignment as assistant economics counselor is a thin cover for his association with the intelligence community. Mr. Black speaks three foreign languages fluently. He is married and has one small child.

Mr. Black's only real military acquaintance is Lieutenant Colonel Grey. He is generally wary of the intelligence role played by the Attaché Office and has little interest in military hardware. Despite his age, Mr. Black's rank is relatively high (the equivalent of lieutenant colonel).

KOHBAR BIOGRAPHY SHEET

Colonel R. Brown, Ednor Air Force

Colonel Brown was born on 24 April 1936. He graduated from college in 1957. Commissioned in the Army Air Corps in December 1957, he served as a bombardier in B-17s and B-24s flying from Tetler. Postwar assignments took him to various staff billets in Ednor.

In 1966, Captain Brown was assigned as a B-29 pilot flying strikes against the North Upaan and Leftist forces around the Yalu. Promoted to major in 1967, he was reassigned to the Strategic Air Command (SAC) where he served in a B-36 heavy bomber squadron and as an air intelligence officer. He was promoted to lieutenant colonel in 1959 shortly after graduation from the Air University.

Lieutenant Colonel Brown spent four years in the Air Force Intelligence Directorate (AFID) as deputy, Nandorian Long Range Aviation Estimates Branch. In 1964, he returned to the SAC as a B-52 squadron commander. When his unit deployed to Mage in 1965, Lieutenant Colonel Brown became group executive officer. He flew missions in Pilam and Lindy during 1965-66.

Promoted to colonel in 1967, he attended the National War College, earning a master's degree in international affairs during off-duty hours. Colonel Brown served in the Air Force Systems Command from 1968 until his assignment as defense attaché in Kohbar in April 1973.

Colonel Brown failed selection to brigadier general in 1974. He is married and has three children. His duties as defense attaché are largely ceremonial. He is due for reconsideration for promotion in two months. The decision of the working group is totally his responsibility and will probably affect his fitness/efficiency report, which will be completed by the ambassador within the week.

KOHBAR PROBLEM-SOLUTION SHEET

Codes: Y = Yes
N = No
P = Probable
? = Unknown

	Equipment Type				
	FV 432	Type 60	Marder	AMX 10P	Pbv 302
<i>Required Capabilities</i>					
Proven Design	Y	Y	Y	N	Y
Fording Capability of 5'	P	P	Y	Y	Y
Ability to Cross 20-Ton Bridges	Y	Y	N	Y	Y
Antipersonnel Armament	Y	Y	Y	Y	N
Seafaring Exporter	Y	Y	Y	Y	Y
At Least 7 Infantry Soldiers	Y	Y	Y	Y	Y
<i>Positive Reinforcers</i>					
Easy Maintenance	N	P	N	?	?
Uses Ednorian World War II Ammo	N	Y	N	N	N
Diplomatic Relations with Kohbar	Y	Y	Y	N	N

The Moparian Model APC Type 60 is the best-suited vehicle, based on available data. Tetler's FV 432 is a strong second choice, based on the fact that it fulfills all "required" capabilities.

■ **SOCIETY OF TAOS: GROUP DECISION MAKING**

Goals

- To allow the participants to experience problem-solving and decision-making strategies within a group.
- To offer the participants an opportunity to study how task-relevant information is shared within a group.
- To demonstrate the effects that individual priorities can have on group decisions.

Group Size

Several subgroups of six or seven participants each.

Time Required

Approximately two hours.

Materials

- A copy of the Society of Taos Background Sheet for each participant.
- One set of Society of Taos Role Sheets for each subgroup (a different sheet for each of five members) and one set for each observer.
- A complete set of Society of Taos Site Listings (1 through 5) for each participant.
- A copy of the Society of Taos Site Map for each participant.
- A copy of the Society of Taos Observer Sheet for each observer.
- A copy of the Society of Taos Answer Sheet for each participant.
- A pencil for each participant.
- A portable writing surface for each observer.

Physical Setting

A room in which the subgroups can work without disturbing one another. Movable chairs should be provided; tables are optional.

Process

1. The facilitator announces that the participants will be involved in a role play concerning problem solving and decision making.
2. The participants are assembled into subgroups of six or seven members each (five role players and one or two observers).
3. Within each subgroup the facilitator distributes handouts: a background sheet to each member, a different role sheet to each of five members, a complete set of role sheets to each observer, an observer sheet to each observer, a complete set of site listings to each member, and a site map to each member. In addition, each participant is given a pencil, and each observer is given a portable writing surface.
4. The facilitator asks the participants to start reading their handouts. The role players are also asked to spend a few minutes studying their roles and thinking about behaviors that might be consistent with those roles. While the role players are studying, the facilitator meets with the observers in private to answer any questions that they have about their assignment; after ensuring that the observers understand what they are to do, the facilitator sends them back to their subgroups to finish reading their handouts. (Ten minutes.)
5. The facilitator answers questions about the role-play task as necessary, emphasizes that the role players must maintain their roles throughout the upcoming meeting, and asks the subgroups to begin. If the facilitator notices that any subgroup completes the task early, its members may be instructed to discuss among themselves how productive they were and/or share their role sheets with one another. (One hour.)
6. After each subgroup has completed the task and arrived at an answer, all subgroups are instructed to stop their role plays. The facilitator distributes copies of the answer sheet, announces the two wrong answers, and briefly explains why they are wrong.
7. The total group is reassembled, and the observers are asked to share the contents of their observer sheets. (Ten minutes.)
8. The facilitator leads a concluding discussion by asking the following questions:
 - How satisfied were you with your subgroup's decision?
 - How comfortable were you with the process your subgroup used to arrive at the decision?
 - How is what happened in your subgroup similar to what you have experienced in other decision-making situations? How is it different? What conclusions can you draw?
 - How might you have changed this process to increase your comfort and satisfaction and those of your fellow subgroup members?
 - How might you use what you learned to improve problem solving and decision making at home or at work?

Variations

- The facilitator can tell the subgroups that they are in competition with one another and that the first subgroup to submit a correct answer “wins.”
- One of the roles can be changed to incorporate a vested interest in choosing one of the two wrong sites (for example, by having one of the committee members own one of the sites).
- If the group is large enough, the facilitator can assemble an executive board to whom the subgroups can appeal about altering some of the board decisions described in the role sheets, or the facilitator can create a role sheet for an executive-board member and include one such member in each subgroup.
- Criteria and site descriptions can be added to or deleted from the original activity to shorten or lengthen it.
- The issues of power and influence can be addressed. In this case the facilitator can add the following questions to the observer sheet:
 - What individual priorities are taking precedence as the group comes to its decision?
 - How would you characterize the influence that is being used?

Submitted by Michael W. Cooney.

SOCIETY OF TAOS BACKGROUND SHEET

You belong to the Society of Taos, a 500-member social organization that is increasing membership at a rate of 10 percent each year. A maximum membership of one thousand was established two years ago. The rapid growth of the society is probably due to bylaws that make membership available to anyone, regardless of race, sex, or creed, provided that he or she pays a \$1500 initiation fee and agrees to pay monthly dues of \$90 as well as \$50 per month for food services.

The lease on the society's present lodge runs out in nine months and will not be renewed; consequently, the society must find and relocate to a new lodge within this time frame. In an effort to address this problem, the society chose you and four other members to serve on a committee to select a different lodge. The selection must meet several criteria that are included in your handouts and in those distributed to your fellow committee members. Five site possibilities are available, and the committee is meeting today to make the selection from among these five. You will be given pertinent data about each of the five sites, and you are to assume that all of these data are correct. In making your final choice, you and your fellow committee members must work as a group; there must be substantial agreement when the decision is made. You should note that there is not one *right* choice, but there is at least one *wrong* choice.

SOCIETY OF TAOS ROLE SHEET 1

You have been a member of the society since it was formed in 1982. Having watched a steady growth in membership, you are glad to see plans to purchase a different lodge. You are not sure, however, if the \$400,000 budget allocated by the society's executive board will allow the purchase and renovation of a site that will make all of the members proud. The issue of pride in the lodge has become quite important to you; you have lived on West Oak Avenue all of your life and have watched the neighborhood decline badly in the last ten years. As a result, the lodge has become your home away from home.

You have surveyed the membership and found that most members are more interested in the outside appearance of the lodge and its landscaping than in the number of rooms available. This is probably due to the fact that 35 percent of the members live on the west side of town and, like you, have suffered declining property values or are afraid they will in the near future. Although this is a large percentage of the membership, even more—almost 50 percent—live on the north side of town. Many homes on the north side are known for their elaborate landscaping, especially during the spring when thousands of flowers are in bloom.

SOCIETY OF TAOS ROLE SHEET 2

You have been a member of the society since 1988. You decided to join when you found out that several members had handicaps similar to yours. You had polio as a child and now must use a walker. Being around others with similar problems, particularly the paraplegic Vietnam veterans who belong to the society, helps you live with your handicap more easily. Although 5 percent of the society members are handicapped, not many use the present lodge during the summer because it is not air conditioned. The lack of air conditioning might also explain why older members seldom use the lodge in summertime.

You are hoping that more arts-and-crafts activities will be offered in the new lodge; in fact, you have volunteered to help set up a room for this purpose. The society's executive board has determined that the new lodge must have a minimum of 25,000 square feet, almost twice as much square footage as the present lodge; therefore, there should be plenty of space to set up the kind of room you envision.

Another of your concerns with regard to the new lodge is the composition of the parking lot. It is difficult for you and the other handicapped members to cope with unpaved or gravel surfaces.

SOCIETY OF TAOS ROLE SHEET 3

You have been a member of the society since 1982. Having watched a steady growth in membership, you realize that lodge space is a problem. You are not sure if the budget for the new lodge is reasonable, though, because the average member is by no means wealthy. In addition, most members are over forty and are probably earning as much as they ever will. Still another problem is the fact that the society is barely able to pay the \$1500-per-month utility bills for the present lodge, which is only about half the size of the proposed new lodge. Of course, money to pay the utility bills would be more available if all members would pay their monthly dues on time; last month almost 20 percent of the dues were delinquent.

Because you are a businessperson and believe that you have a lot of business sense, you are glad you are on the site committee. Maybe you can help the society avoid some legal problems. You have checked and found zoning to be no problem because no public sales will occur in the new lodge. However, if the arts-and-crafts activities continue to expand, there has been talk of opening a small consignment shop. You will push for such a shop to be located elsewhere and to stand on its own financially.

While checking zoning laws, you found an important city ordinance that you did not know existed. The city requires a building to have twelve parking spaces for every 5,000 square feet. Your own business is located in a building with 15,000 square feet and only twenty parking spaces; the ordinance requirement means that you should have thirty-six. In addition, the new city administration is starting to get tough on illegal parking.

SOCIETY OF TAOS ROLE SHEET 4

You have been a member of the Society of Taos since 1990. You joined the society when you learned that “Taos” is an Indian word meaning people. You have always had an active social life, so it seemed right to join “the society of people.” You have had no regrets.

A year ago you were named the society’s social director. That happened after a referendum to get rid of the society’s liquor license, an action that provoked over 100 members to threaten resignation. When the issue finally came to a vote, 280 members voted in favor of keeping the license and fifty-seven voted in favor of relinquishing it. Ultimately, the society’s executive board voted 6 to 0 to keep the liquor license.

As social director you have been active, but find it difficult to satisfy many of the members. The majority seem to want golf or tennis outings, so it is important to you that the new lodge be located close to an area of existing golf or tennis facilities.

Another of your concerns is the fact that in ten months you will be hosting a convention of members of your society and similar social organizations across the state. You plan on breaking in the new lodge with a dinner for over 1,400 people who have already made reservations for this convention; consequently, it is critical that the new lodge have adequate kitchen and dining facilities.

SOCIETY OF TAOS ROLE SHEET 5

You have been a member of the society for the past year. You are the newest member to be selected for the site committee. Your selection was probably more because you are a member of the City Council than because of anything you have done for the society. Ever since you joined you have heard how strong the society is and how rapidly it is growing. You have checked the records for the last three years and have found that almost 10 percent of the membership quits each year, while new members join in numbers that not only replace those who quit but also increase the total membership by 10 percent.

Because of the effort you had to put into your City Council work in the past several months, you have had little time to spend dealing with issues concerning the society. Your pet project on the City Council has been the sponsoring of a bill that makes it illegal to sell or distribute liquor or to hold a liquor license within ten blocks of a school, college, or church. This bill was just passed, and you feel good about your victory.

On the home front, though, you are not too crazy about your luck. Last year the Environmental Protection Agency started investigating rumors that Lake Pueblo was covering one of the largest toxic-waste dumps in the country. As the investigation uncovered more and more evidence, you decided to move from the lake-front house that you built four years ago. Your new house is on the corner of Highway 101 and Arrowhead Drive, and last week it was broken into and vandalized. After this happened you learned that in the last few months your neighborhood has become the highest crime area of the city; statistics show that the crime rate began increasing with the opening of the new shopping center near your home.

SOCIETY OF TAOS OBSERVER SHEET

Instructions: While the group members are studying their roles prior to the beginning of the simulation, read your copies of the background sheet and their role sheets and review the site map so that you can become acquainted with the situation involved. During the simulation you are to observe the group members' interactions carefully and write answers to the following questions. Later you will be asked to share your answers with the total group. If you need clarification of this assignment, consult the facilitator in private; do not share the content of this sheet with the role players.

1. How are the members choosing to share relevant information from their role sheets?
2. How are the members weeding out irrelevant information?
3. What problems are arising because of individual priorities? How is the group resolving these problems? How are they going about the process of meeting one another's needs?
4. What problem-solving and decision-making strategies is the group using to make its final decision about a site?

SOCIETY OF TAOS SITE LISTING 1

Address: 2150 W. Poplar Avenue		Price: \$250,000
Building Size: 25,000 sq. ft.	# of Rooms: 14	Lot Size: 2.5 acres
Construction Type: Brick	Year Built: 1980	Possession: Immediate
Sewage: City	Heat: Gas	Rest Rooms: 8
Water: City	Air Conditioning: Yes	Kitchen: Yes
Gas: Yes	Water Heater: Gas	Loading Dock: No
Insulation: Yes	220 Volts: Yes	Drive: Asphalt
Approx. Utilities Cost: \$1600/mo.		Parking: 90 spaces
Mortgagee: R & N	Mortgage Balance:	Total Assesment:
	\$123,450	\$187,000

Remarks: Includes restaurant equipment. Renovation: \$100,000.

Renovation time: 6 months. Renovation includes: enlarging kitchen, replacing air conditioning unit.

SOCIETY OF TAOS SITE LISTING 2

Address: 3650 N. Arrowhead Drive		Price: \$200,000
Building Size: 30,000 sq. ft.	# of Rooms:	Lot Size: 2 acres
Construction Type: Brick	Year Built: 1980	Possession: 90 days
Sewage: City	Heat: Gas	Rest Rooms: 8
Water: City	Air Conditioning: No	Kitchen: No
Gas:	Water Heater: Gas	Loading Dock: No
Insulation:	220 Volts: Yes	Drive: Asphalt
Approx. Utilities Cost: \$1700/mo.		Parking: 75 spaces
Mortgagee:	Mortgage Balance:	Total Assesment:
	None	\$90,000

Remarks: Renovation \$200,000. Renovation time: 180 days (note renovation may begin before taking final possession).

Renovation includes: replacing and recaulking all windows, installing kitchen facilities, constructing dining facility and two large meetings rooms on first floor.

SOCIETY OF TAOS SITE LISTING 3

Address: 536 W. Oak Avenue		Price: \$175,000
Building Size: 25,000 sq. ft.	# of Rooms:	Lot Size: 2 acres
Construction Type: Brick	Year Built: 1955	Possession: Immediate
Sewage: City	Heat: Gas	Rest Rooms:
Water: City	Air Conditioning: No	Kitchen: Small
Gas:	Water Heater: Electric	Loading Dock: No
Insulation:	220 Volts: Yes	Drive: Gravel
Approx. Utilities Cost: \$1600/mo.		Parking: 64 spaces
Mortgagee:	Mortgage Balance:	Total Assesment:

Remarks: Roof leaks. Renovation \$200,000. Renovation time: 8 months. Renovation includes: replacing roof, enlarging kitchen, replacing windows.

SOCIETY OF TAOS SITE LISTING 4

Address: 2020 S. Arrowhead Drive		Price: \$275,000
Building Size: 30,000 sq. ft.	# of Rooms: 17	Lot Size: 2 acres
Construction Type: Brick	Year Built: 1967	Possession: 90 days
Sewage: City	Heat: Electric	Rest Rooms:
Water: Well	Air Conditioning: Yes	Kitchen: 2
Gas:	Water Heater:	Loading Dock: 2
Insulation:	220 Volts:	Drive: Gravel/dirt
Approx. Utilities Cost: \$1800/mo.		Parking: 150 spaces
Mortgagee: HFCL	Mortgage Balance:	Total Assesment;
	\$175,000	\$245,000

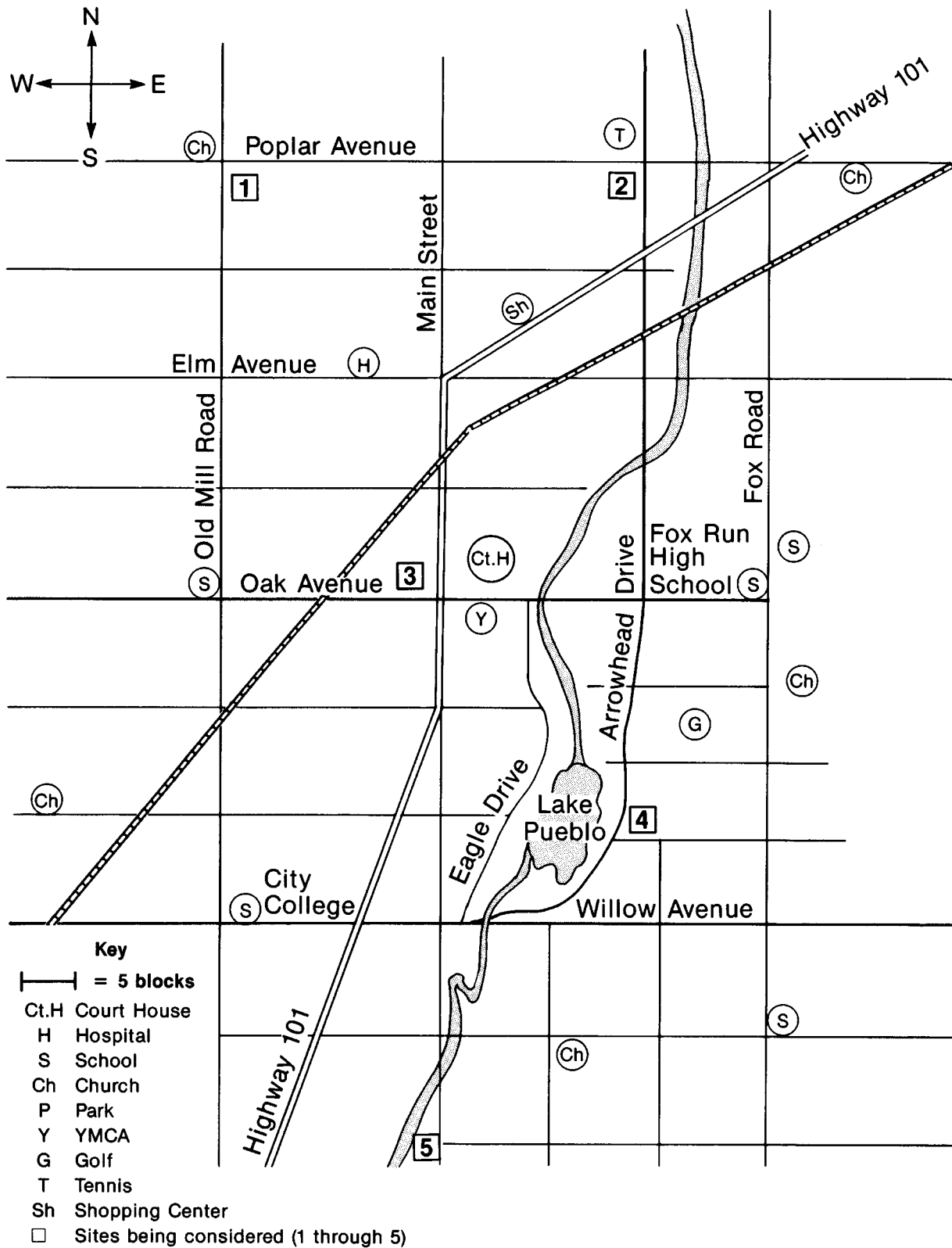
Remarks: Loading docks front-left corner (could be removed later).
Renovation: \$40,000. Renovation time: 90 days. Renovation includes: adding 2 restrooms.

SOCIETY OF TAOS SITE LISTING 5

Address: 5300 S. Main Street		Price: \$225,000
Building Size: 25,000 sq. ft.	# of Rooms:	Lot Size: 3 acres
Construction Type:	Year Built: 1933	Possession: Immediate
Aluminum		
Sewage: City	Heat: Steam/water	Rest Rooms:
Water: Well	Air Conditioning: No	Kitchen: Large
Gas:	Water Heater:	Loading Dock: No
Insulation:	220 Volts:	Drive: Paved
Approx. Utilities Cost: \$1600/mo.		Parking: 107 spaces
Mortgagee:	Mortgage Balance:	Total Assesment:
	None	\$177,000

Remarks: Heating system needs to be replaced. Building remodeled 1962. Renovation: \$220,000. Renovation time: 8 months. Renovation includes: installing new electric heating system, replacing roof, and upgrading kitchen.

SOCIETY OF TAOS SITE MAP



SOCIETY OF TAOS ANSWER SHEET

Requirements (Needs)	Site 1	Site 2	Site 3	Site 4	Site 5
Occupany in 9 months	6 months	Less than 9 months	8 months	6 months	8 months
Budget \$400,000	\$350,000	\$400,000	\$375,000	\$315,000	\$445,000
Liquor license	No	Yes	Yes	Yes	Yes
Building size Min. 25,000 sq. ft.	25,000 sq. ft.	30,000 sq. ft.	25,000 sq. ft.	30,000 sq. ft.	25,000 sq. ft.
12 parking spaces per 5,000 sq. ft.	90 spaces	75 spaces	64 spaces	150 spaces	107 spaces
Kitchen facilities	Yes	Renovation	Yes/ Renovation	2	Large

Site 1 is unacceptable. Church is less than ten block from building; cannot have liquor license.

Site 5 is unacceptable. Does not meet budget requirements.

Sites 2, 3, and 4 are all acceptable. Final selection depends upon accomodating individual group members' needs

■ DIVERSITY QUIZ: VIEWING DIFFERENCES AS RESOURCES

Goals

- To introduce the topic of diversity in the workplace in a nonthreatening way.
- To offer the participants an opportunity to compare the results of individual work with those of group work.
- To give the participants a chance to collaborate with others in order to complete a task.
- To link the concepts of diversity and collaboration.

Group Size

Two to six subgroups of five participants each. If necessary, one or more subgroups may have six or seven participants, in which case each extra subgroup member should receive a duplicate of one of the data sheets.

Time Required

Approximately one and one-half hours.

Materials

- A set of five data sheets for each subgroup. Each sheet contains unique data and is coded by the number of periods, from one to five, following the last sentence of the first paragraph. (The facilitator should have extra copies on hand if some subgroups must have more than five members each.)
- A copy of the Diversity Quiz Sheet for each participant.
- A copy of the Diversity Quiz Answer Key for each participant.
- A pencil for each participant.

Physical Setting

A room large enough so that the members of each subgroup may sit in a circle and work without disturbing the other subgroups. Writing surfaces of some type should be provided.

Process

1. The facilitator announces that the activity will consist of completing an “open-book” quiz on the subject of diversity. Then the facilitator assembles the participants into subgroups of five members each (or six or seven members each, if necessary), ensuring as much as possible that each subgroup consists of members who are diverse in terms of gender, age, and race.
2. The facilitator distributes copies of the data sheets, taking care that all five differently coded data sheets have been distributed in each subgroup. In addition, the facilitator distributes copies of the quiz sheet and pencils and explains that each subgroup’s goal is to use the data sheets to find the correct answers to all twenty questions. The facilitator further clarifies that the subgroups have thirty-five minutes to complete the task, stipulating that each participant is to work independently for the first ten minutes and then join forces with his or her fellow subgroup members for the next twenty-five minutes. After eliciting and answering questions about the task, the facilitator asks the subgroups to begin.
3. After ten minutes the facilitator announces the end of the independent work and the beginning of the subgroup work.
4. As the subgroups work, the facilitator monitors their progress, assisting as necessary.
5. After twenty-five more minutes, the facilitator calls time and asks the subgroups to stop their work.
6. The facilitator reconvenes the total group and leads a discussion based on the following questions:
 - How did you go about completing the task when you were working alone? How did your completion of the task change when you were working in your subgroup?
 - How did your subgroup use the information on the data sheets?
 - Which behaviors helped your subgroup to complete the task? Which behaviors hindered your subgroup in its efforts? How did the diversity of your subgroup affect the outcome?
 - What happened if people did not share the information on their data sheets?
 - What would you do differently if you had to repeat the task now? How could you make greater use of the diverse resources in your subgroup?(Twenty minutes.)
7. The facilitator distributes copies of the answer key and discusses answers with the participants. (Five minutes.)
8. The facilitator makes the following comments:

“In the United States the culture is growing more diverse, as the statistics cited in *Workforce 2000*¹ attest. The same is true in many other countries as well. People differ from one another not only in terms of gender, age, ethnicity, sexual orientation, race, and physical ability, but also in terms of background, values, expectations, and preferences.

“To cope effectively with the differences that exist between ourselves and others, all of us will have to be more conscious of differences and work harder to cooperate with one another. In the work place, for instance, group work may involve more patience, more communication, more negotiation, and greater efforts to understand one another; however, the work of today’s diverse groups may also lead to a richness of ideas and a variety of approaches to problem solving that are not possible with more homogeneous groups.”

9. The facilitator initiates a discussion on promoting collaboration by asking, “Given what you have just learned about diversity, how could you promote greater collaboration in a diverse workplace?”

Variations

- The activity may be used to introduce a workshop on managing diversity, after which the subgroups’ completed quiz sheets are retained. At the conclusion of the workshop, the quiz is repeated as a “posttest” and its results compared with those of the “pretest.”
- If there are a large number of subgroups, one data sheet may be given to each subgroup; then the subgroups collaborate to complete the quiz.
- The activity may be used as an icebreaker. Each participant may be given a 3"x5" index card with a piece of information from the quiz, such as “most competitive country,” “percentage of new work force that is female,” and so on. In order to complete the quiz, the participants have to obtain information from one another.

¹ *Workforce 2000: Work and Workers for the Twenty-First Century* by W.B. Johnston and A.E. Parker, 1987, Indianapolis, IN: Hudson Institute. See also *Workforce 2000: Gaining the Diversity Advantage* by D. Jamieson and J. O’Mara, 1991, San Francisco: Jossey-Bass, and “The Confucius Connection: From Cultural Roots to Economic Growth” by G. Hofstede and M.H. Bond, 1988 (Spring), *Organizational Dynamics*, pp. 5-21.

Submitted by Linda Eschenburg.

DIVERSITY QUIZ DATA SHEET

As far as the United States work force is concerned, times are changing. A now-famous white paper that came out in 1987, *Workforce 2000: Work and Workers for the Twenty-First Century*, cited important U.S. population changes that were expected to occur between the years 1985 and 2000. For instance, the paper stated that the labor pool in the U.S. is shrinking. Throughout the decade of the 1990s there will be 4 to 5 million fewer entry-level workers than there were in the 1980s. Candidates for entry-level positions—*new workers*—are scarce in the Nineties.

In addition, the *new workers* include more females, more disadvantaged people, and more people representing diverse groups. In 1985 white males made up 47 percent of the labor force, whereas only 15 percent of the *new workers* are white males.

As a result of these and other developments, organizations can no longer conduct business as usual. As workers are increasingly diverse, one management style cannot be effective for all workers; people's individual needs must be taken into account. Organizations must compete to hire and retain the best talent. And talent is blind to age, gender, nationality, and color.

In addition to age, gender, nationality, and race, issues that account for diversification among workers include education, values, physical ability, mental capacity, personality, experiences, culture, and the way that work is approached. For example, the age of the U.S. work force is increasing. Also, women make up about 66 percent of the *new workers*, and men of color make up about 7 percent. In addition, it is important to note that before 1970, 79 percent of the immigrants to the U.S. were from Canada and Europe; now the majority come from entirely different areas.

Tomorrow's work force, like today's, is characterized by a mix of values. Some employees primarily value their home and family lives, others their careers. Some value loyalty to their companies, others to their professions, and still others to themselves. Often what people have lacked in the past—money, respect, or control—is most highly valued.

Here are some other bits of information that you may find useful in considering the issue of diversity:

- The country that is the size of California is considered the most competitive.
- In cultures that value individuality, chief of which is the U.S., people are promoted on the basis of their individual accomplishments. To stand out from the group by being a leader is considered good, normal, and something to strive for.
- In 70 percent of the world, however, people consider what is best for the group—whether that group is the work group, the company, or the country—to be more important than what is best for the individual person. The group's performance—not individual performance—is the basis for a performance appraisal. Leadership is based on age and seniority rather than on individual performance.

DIVERSITY QUIZ DATA SHEET

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In addition, the *new* workers include more females, more disadvantaged people, and more people representing diverse groups. In 1985 white males made up 47 percent of the labor force, whereas only 15 percent of the *new* workers are white males.

As a result of these and other developments, organizations can no longer conduct business as usual. As workers are increasingly diverse, one management style cannot be effective for all workers; people's individual needs must be taken into account. Front-line supervisors are the management group most affected by the need for flexibility in management style; they are the ones who deal most directly with diverse entry-level employees. Organizations and their management teams must compete to hire and retain the best talent. And talent is blind to age, gender, nationality, and color.

In addition to age, gender, nationality, and race, issues that account for diversification among workers include education, values, physical ability, mental capacity, personality, experiences, culture, and the way that work is approached. For example, the age of the U.S. work force is increasing. In 1970 the average age was only 28; now it is much higher. Also, people of color made up only 10 percent of the total U.S. labor force in 1985; now that percentage is higher. Since 1970, the countries of origin of immigrants have changed dramatically; now 78 percent of immigrants to the U.S. come from Latin America and Asia.

Tomorrow's work force, like today's, is characterized by a mix of values. Some employees primarily value their home and family lives, others their careers. Some value loyalty to their companies, others to their professions, and still others to themselves. Often what people have lacked in the past—money, respect, or control—is most highly valued.

Here are some other bits of information that you may find useful in considering the issue of diversity:

- People who are considered to be illiterate would have trouble reading traffic signs.
- The largest country discussed in *Workforce 2000* is also the one that most highly values individuality.
- In Japan, authority is respected more than in the U.S.

DIVERSITY QUIZ DATA SHEET

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In addition, the *new workers* include more females, more disadvantaged people, and more people representing diverse groups. In 1985 white males made up 47 percent of the labor force, whereas only 15 percent of the *new workers* are white males.

As a result of these and other developments, organizations can no longer conduct business as usual. As workers are increasingly diverse, one management style cannot be effective for all workers; people's individual needs must be taken into account. Organizations must compete to hire and retain the best talent. And talent is blind to age, gender, nationality, and color.

In addition to age, gender, nationality, and race, issues that account for diversification among workers include education, values, physical ability, mental capacity, personality, experiences, culture, and the way that work is approached. For example, the age of the U.S. work force is increasing. Between 1985 and 2000, the percentage of people over the age of forty-five will increase by 30 percent. Also, 13 percent of the *new workers* will be women of color. In addition, since 1970, 78 percent of the immigrants to the U.S. have come from Latin America and Asia, whereas prior to 1970 the countries of origin were in entirely different parts of the world.

Tomorrow's work force, like today's, is characterized by a mix of values. Some employees primarily value their home and family lives, others their careers. Some value loyalty to their companies, others to their professions, and still others to themselves. Often what people have lacked in the past—money, respect, or control—is most highly valued.

Here are some other bits of information that you may find useful in considering the issue of diversity:

- People who are considered to be illiterate would have trouble reading a McDonald's menu.
- The largest country discussed in *Workforce 2000* is the United States.
- Some countries are oriented toward the values and the needs of the group, whereas others are oriented toward the values and the needs of individual people.

DIVERSITY QUIZ DATA SHEET

As far as the United States work force is concerned, times are changing. A now-famous white paper that came out in 1987, *Workforce 2000: Work and Workers for the Twenty-First Century*, cited important U.S. population changes that were expected to occur between the years 1985 and 2000. For instance, the paper stated that the labor pool in the U.S. is shrinking. Throughout the decade of the 1990s there will be 4 to 5 million fewer entry-level workers than there were in the 1980s. Candidates for entry-level positions—*new* workers—are scarce in the Nineties. . . .

In addition, the *new* workers include more females, more disadvantaged people, and more people representing diverse groups. In 1985 white males made up 47 percent of the labor force, whereas only 15 percent of the *new* workers are white males.

As a result of these and other developments, organizations can no longer conduct business as usual. As workers are increasingly diverse, one management style cannot be effective for all workers; people's individual needs must be taken into account. Organizations must compete to hire and retain the best talent. And talent is blind to age, gender, nationality, and color.

In addition to age, gender, nationality, and race, issues that account for diversification among workers include education, values, physical ability, mental capacity, personality, experiences, culture, and the way that work is approached. For example, the age of the U.S. work force is increasing. By the year 2000, the average age of U.S. workers will be 40. Also, immigrants will increase to almost 25 percent of the new hires. Before 1970, most of the immigrants to the U.S. were from Canada and Europe; now they are from entirely different parts of the world. Also, it is estimated that as many as 25 percent of the people who now graduate from high school are illiterate.

Tomorrow's work force, like today's, is characterized by a mix of values. Some employees primarily value their home and family lives, others their careers. Some value loyalty to their companies, others to their professions, and still others to themselves. Often what people have lacked in the past—money, respect, or control—is most highly valued.

Here are some other bits of information that you may find useful in considering the issue of diversity:

- Japan is about the size of California.
- Hispanics consider their families to be more important than their jobs. Therefore, it might be difficult for a Hispanic to accept a job that would involve a lot of overtime work.
- In Mexico, authority is respected more than in the U.S.

DIVERSITY QUIZ DATA SHEET

As far as the United States work force is concerned, times are changing. A now-famous white paper that came out in 1987, *Workforce 2000: Work and Workers for the Twenty-First Century*, cited important U.S. population changes that were expected to occur between the years 1985 and 2000. For instance, the paper stated that the labor pool in the U.S. is shrinking. Throughout the decade of the 1990s there will be 4 to 5 million fewer entry-level workers than there were in the 1980s. Candidates for entry-level positions—*new workers*—are scarce in the Nineties. . . .

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As a result of these and other developments, organizations can no longer conduct business as usual. As workers are increasingly diverse, one management style cannot be effective for all workers; people's individual needs must be taken into account. Organizations must compete to hire and retain the best talent. And talent is blind to age, gender, nationality, and color.

In addition to age, gender, nationality, and race, issues that account for diversification among workers include education, values, physical ability, mental capacity, personality, experiences, culture, and the way that work is approached. For example, the age of the U.S. work force is increasing. Also, by the year 2000, U.S.-born people of color and immigrants are expected to make up 43 percent of the *new workers*. In addition, since 1970, 78 percent of the immigrants to the U.S. have come from Latin America and Asia, whereas prior to 1970 they came from entirely different parts of the world.

Tomorrow's work force, like today's, is characterized by a mix of values. Some employees primarily value their home and family lives, others their careers. Some value loyalty to their companies, others to their professions, and still others to themselves. Often what people have lacked in the past—money, respect, or control—is most highly valued.

Here are some other bits of information that you may find useful in considering the issue of diversity:

- People who graduate from high school and cannot read or write at the eighth-grade level are considered to be illiterate.
- The largest country discussed in *Workforce 2000* is the United States.
- The majority of cultures respect authority more than the U.S. does; in these cultures it is considered impolite to disagree with or question the boss.
- Asians are members of group-oriented cultures, whereas the culture of the U.S. is oriented toward individuality.

DIVERSITY QUIZ SHEET

1. Throughout the 1900s, the U.S. labor pool of entry-level workers will shrink by _____ million.
2. The management group most affected by the different mix of *new* workers in the U.S. work force is _____.
3. White males make up _____ percent of the *new* workers in the U.S.
4. Talent is blind to _____, _____, _____, and _____.
5. In addition to age, gender, nationality, and race, diversity includes these eight issues:

6. In 1970 the average age of U.S. workers was _____.
7. By the year 2000, the average age of U.S. workers will be _____.
8. Women make up about _____ percent of the *new* workers in the U.S.
9. People of color made up _____ percent of the 1985 U.S. work force.
10. People of color make up _____ percent of the *new* workers in the U.S.
11. By the year 2000, immigrants will comprise almost _____ percent of the new hires in the U.S.
12. Before 1970, 79 percent of the immigrants to the U.S. were from these areas (be specific): _____ and _____.
13. Since 1970, 78 percent of the immigrants to the U.S. have come from these areas (be specific): _____ and _____.

14. It is estimated that as many as _____ percent of the people who graduate from high school cannot read or write at the _____ grade level.
15. Adults who cannot read at this grade level (see item 14 above) would have trouble reading a _____ menu and _____ signs.
16. The most competitive country is _____.
17. The country that values individuality the most is _____.
18. The group is valued more than the individual in _____ percent of the world.
19. In cultures that respect _____, it is considered impolite to _____ or _____ the boss.
20. People in the countries of _____ and _____ respect authority more than do people in the U.S.

DIVERSITY QUIZ ANSWER KEY

1. Throughout the 1990s, the U.S. labor pool of entry-level workers will shrink by 4 to 5 million.
2. The management group most affected by the different mix of *new* workers in the U.S. work force is front-line supervisors.
3. White males make up 15 percent of the *new* workers in the U.S.
4. Talent is blind to age, gender, nationality, and color.
5. In addition to age, gender, nationality, and race, diversity includes these eight issues: education, values, physical ability, mental capacity, personality, experiences, culture, and the way that work is approached.
6. In 1970 the average age of U.S. workers was 28.
7. By the year 2000, the average age of U.S. workers will be 40.
8. Women make up about 66 percent of the *new* workers in the U.S.
9. People of color made up 10 percent of the 1985 U.S. work force.
10. People of color make up 20 percent of the *new* workers in the U.S.
11. By the year 2000, immigrants will comprise almost 25 percent of the new hires in the U.S.
12. Before 1970, 79 percent of the immigrants to the U.S. were from these areas (be specific): Canada and Europe.
13. Since 1970, 78 percent of the immigrants to the U.S. have come from these areas (be specific): Latin America and Asia.
14. It is estimated that as many as 25 percent of the people who graduate from high school cannot read or write at the eighth-grade level.
15. Adults who cannot read at this grade level (see item 14 above) would have trouble reading a McDonald's menu and traffic signs.
16. The most competitive country is Japan.
17. The country that values individuality the most is the U.S.
18. The group is valued more than the individual in 70 percent of the world.
19. In cultures that respect authority, it is considered impolite to disagree with or question the boss.
20. People in the countries of Japan and Mexico respect authority more than do people in the U.S.

■ BEAN COUNTERS: ANALYZING PRODUCTION ERRORS

Goals

- To demonstrate one cause of quality variation in a production process.
- To demonstrate a situation in which a team's output problems have systemic causes.
- To stimulate group thinking about data collection to better understand process and error.
- To construct simple graphics to highlight random variations in individual or group production.

Group Size

Up to six subgroups of two to four participants each.

Time Required

One hour and forty minutes to two hours.

Materials

- A tub or deep tray filled with two types of dried beans of contrasting color and size, well mixed (e.g., lentils and black beans), in a ratio of approximately 80 percent and 20 percent.
- One scoop for each subgroup (all scoops should be the same size).
- One copy of Bean Counters Inspection Report for each subgroup.
- One copy of Bean Counters Data Sheet for each subgroup.
- One pencil for each subgroup.
- One pocket calculator for each subgroup.
- A newsprint flip chart and a felt-tipped marker.
- Masking tape for posting newsprint.

Physical Setting

A room large enough for subgroups to work without disturbing one another.

Process

1. The participants are asked to form subgroups of two to four members each. *[Note to the facilitator: It is important not to reveal the goals of the activity at this time.]* (Five minutes.)
2. Each subgroup is given a scoop, a copy of the Bean Counters Inspection Report, a pencil, and a pocket calculator. (Five minutes.)
3. The facilitator sets the tub of dried beans in the center of the room and explains that a scoop of beans represents the end result of a production process. *[Note to the facilitator: Depending on the audience, the beans can be considered to be input, output, raw materials, etc.]* Most of the beans are acceptable products; however, some of the beans are defective products. *[Note to the facilitator: Show the types of beans that are acceptable and not acceptable products.]* He or she explains that the subgroups will be collecting data about the effectiveness of this particular production process, which is called “scooping.” (Five minutes.)
4. Each subgroup is asked to designate an “inspector” and a “scooper.” The scooper will retrieve a scoop of beans from the bean tub, after which the inspector will count, verify, and record the defects on the Bean Counters Inspection Report. Team members are free to collaborate and offer suggestions to one another. The facilitator answers any questions about the instructions, and the subgroups are instructed to begin. (Five minutes.)
5. Each subgroup sends its scooper to the tub for the first round of production. When he or she brings the scoopful back to the subgroup, the inspector counts the number of both types of beans and records them on the Bean Counters Inspection Report. Once counted, the inspectors return the beans to the tub. (Five to ten minutes.)
6. The facilitator polls the inspectors, asking each to record his or her subgroup’s number of defects. The facilitator records the results on the newsprint flip chart and calls for a round of applause for the subgroup with the lowest number of defects. He or she then stirs the tub of beans in preparation for the next round of production. (Five minutes.)
7. Steps 5 and 6 are repeated four times, rotating the tasks of inspector and scooper among the subgroup members. (Forty to fifty minutes.)
8. The facilitator debriefs the activity by asking questions similar to the following:
 - What did you notice happening during the activity? What was your reaction to that?
 - What lessons about quality variation can you draw from the experience? What lessons about causes of variation in quality?
 - How might you analyze the variation of results obtained for the purpose of reducing variation?(Ten to fifteen minutes.)

9. The facilitator gives each subgroup a copy of the Bean Counters Data Sheet and reviews the instructions. Subgroups are asked to complete the handout. (Five to ten minutes.)
10. The facilitator polls each subgroup for its results, recording the responses on newsprint. He or she leads a discussion of the variation in the results based on the following questions:
 - What would you estimate to be the proportion of defects in the original supply? *[Note: The facilitator reveals the actual answer (20 percent) after participants have made their estimates.]*
 - What does this suggest about the “supplier” or input quality of this production process?
 - What influence did your individual efforts have on the variation in the recorded results?
 - What does this suggest about the benefits of collaboration about reducing variation?(Ten to fifteen minutes.)
11. The facilitator then reviews the goals of the activity:
 - To demonstrate one cause of quality variation in a production process.
 - To demonstrate a situation in which a team's output problems have systemic causes.
 - To stimulate group thinking about data collection to better understand process and error.
 - To construct simple graphics to highlight random variations in individual or group production.(Five minutes.)

Variations

- The number of rounds of production may be reduced to three if time is limited.
- Subgroups may combine their results together into various aggregate figures, such as total production, total defects, and percentage of total defects.
- Inspectors may rotate from subgroup to subgroup to ensure impartiality during the inspections.
- Other small, available materials (paper clips and safety pins, two types of candy, etc.) may be used instead of beans.
- A pillowcase may be used instead of a tub, forcing scoopers to draw a sample of beans without being able to see the supply.

REFERENCES

- Aguayo, R. (1990). *Dr. Deming: The American who taught the Japanese about quality*. New York: Simon & Schuster.
- Walton, M. (1986). *The Deming management method*. New York: Putnam.

Submitted by W. Norman Gustafson.

BEAN COUNTERS INSPECTION REPORT

Instructions: For each round, record the number of acceptable beans and the number of defective beans in the appropriate columns.

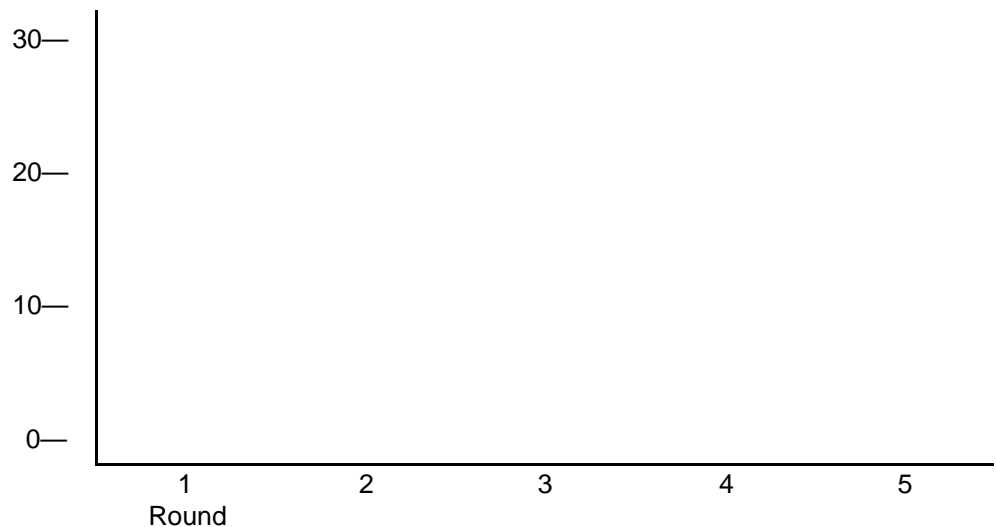
ROUND	# of acceptable products	# of defective products
1		
2		
3		
4		
5		

BEAN COUNTERS DATA SHEET

Instructions: For each round, calculate the percentage of defective products. This calculation is the result of adding together the number of acceptable products and the number of defective products to get a total. The number of defective products is divided by the total in order to determine the percentage of defective products. After calculating this figure for all five rounds, graph the percentage of defective products on the graph at the bottom of the page.

ROUND	(A) # of acceptable products	(B) # of defective products	(C) total # of products (A+B)	(D) % of defective products (B/D)
Example:	35	4	39	10%
1				
2				
3				
4				
5				

% of
defective
products



■ CASH REGISTER: GROUP DECISION MAKING

Goals

- To demonstrate how decision making is improved by consensus seeking.
- To explore the impact that assumptions have on decision making.

Group Size

An unlimited number of subgroups of five to seven participants each.

Time Required

Approximately thirty minutes.

Materials

- A copy of the Cash Register Work Sheet for each participant and for each subgroup.
- A pencil for each participant.

Physical Setting

A room large enough for subgroups and individuals to work without being distracted or overheard by others.

Process

1. The facilitator gives one copy of the Cash Register Work Sheet to each participant and instructs them to spend five minutes reading “The Story” paragraph and then indicating whether each of the “Statements About the Story” is true, false, or unknown (indicated by a question mark).
2. The facilitator forms subgroups of five to seven members each and gives each subgroup one copy of the Cash Register Work Sheet. He or she indicates that each subgroup has approximately ten minutes to reach consensus on whether each statement is true, false, or unknown.
3. The facilitator reconvenes the total group and announces the “correct” answers. (Statement 3 is false, statement 6 is true, and all other statements are unknown.)
4. The facilitator leads a brief discussion of the experience, eliciting comments from participants about making assumptions and about the values of group decision making.

5. Each participant writes at least two implications of the experience for back-home application. These statements are shared with the group.

Variations

- Step 1 can be omitted.
- Another “ambiguous” story can be used.
- The process of consensus seeking can be discussed from the perspectives of “giving up” points of view and of feelings experienced.

Based on materials in William V. Haney, *Communication and Interpersonal Relations* (6th ed.), Homewood, IL: Richard D. Irwin, 1991. Used with permission of the author.

CASH REGISTER WORK SHEET

The Story

A businessman had just turned off the lights in the store when a man appeared and demanded money. The owner opened a cash register. The contents of the cash register were scooped up, and the man sped away. A member of the police force was notified promptly.

Statements About the Story

- | | | | |
|--|---|---|---|
| 1. A man appeared after the owner had turned off the store lights. | T | F | ? |
| 2. The robber was a man. | T | F | ? |
| 3. The man did not demand money. | T | F | ? |
| 4. The man who opened the cash register was the owner. | T | F | ? |
| 5. The store owner scooped up the contents of the cash register and ran away. | T | F | ? |
| 6. Someone opened a cash register. | T | F | ? |
| 7. After the man who demanded the money scooped up the contents of the cash register, he ran away. | T | F | ? |
| 8. Although the cash register contained money, the story does not state how much. | T | F | ? |
| 9. The robber demanded money of the owner. | T | F | ? |
| 10. The story concerns a series of events in which only three persons are referred to: the owner of the store, a man who demanded money, and a member of the police force. | T | F | ? |
| 11. The following events in the story are true: Someone demanded money, a cash register was opened, its contents were scooped up, and a man dashed out of the store. | T | F | ? |

■ SHOE STORE: GROUP PROBLEM SOLVING

Goals

- To observe communication patterns in group problem solving.
- To explore interpersonal influence in problem solving.

Group Size

Subgroups of four to five members each. Any reasonable number of subgroups may be accommodated.

Time Required

Thirty to sixty minutes, depending on the sophistication and the history of the subgroups.

Materials

Paper and pencils (optional).

Physical Setting

Any room large enough for subgroups to work without disturbing one another.

Process

1. The facilitator asks the participants to form subgroups of four or five members each and explains that they are about to perform a group task in solving a mathematical problem. The participants are instructed to arrive at consensus; that is, each member of the subgroup must at least agree somewhat with the conclusion that has been reached. Members are urged to pay attention to how the subgroup arrives at the conclusion, so that they can later discuss the process that emerges.
2. The facilitator states the problem as follows: "Terry went into a shoe store, bought a twelve-dollar pair of shoes, and handed the clerk a twenty-dollar bill. It was early in the day, and the clerk didn't have any one-dollar bills. So the clerk took the twenty-dollar bill, went to the restaurant next door, and exchanged it for twenty one-dollar bills. Therefore, Terry got the correct change. Later that morning the restaurant

owner came to the clerk and said, 'This is a counterfeit twenty-dollar bill.' The clerk apologized profusely, took back the counterfeit bill, and gave the restaurant owner two good ten-dollar bills. Not counting the cost of the shoes, how much money did the shoe store lose?" (*Note to the facilitator:* The answer is \$8.00.)

The facilitator may wish to distribute copies of this problem statement or present it on a poster.

3. As each subgroup arrives at a conclusion, the facilitator asks if all are in agreement and asks one member to explain the process of arriving at the conclusion.
4. This process continues until all subgroups have arrived at the correct answer. Those that find the answer early may be asked by the facilitator to observe other subgroups, but they should be cautioned not to intervene in the problem solving in any way.
5. The facilitator discusses the communication issues by focusing on such behaviors as the following:
 - Reacting negatively to the phrase "mathematical problem," and establishing artificial constraints.
 - Leaving the problem solving to "experts" (self-proclaimed or otherwise).
 - Adopting pressuring tactics in reaching consensus.
 - Revealing anxiety feelings generated by observing subgroups who had reached the correct conclusion early.
 - Using "teaching aids" in convincing others (scraps of paper, paper and pencil, real money).
 - Feeling distress if a wrong conclusion is reached.
 - Using listening checks and other communication-skills techniques.
 - Refusing to set aside personal opinion in order to reach consensus.
6. The facilitator may also wish to discuss the patterns of communication that were reflected in the experience. He or she may comment on influence behaviors, any tendencies toward one- or two-way communication modes, personal or group issues that interfered with task accomplishment, and behaviors that facilitated or were counterproductive to communication.

Variations

- A ground rule may be established that subgroups use no visual aids and merely talk through the solution.
- The problem-solving phase could begin by having individual members attempt to solve the problem independently before the subgroup meeting.

- The problem-solving discussion could be carried out via “mail” by supplying members with paper on which they write several letters to one another. A consensus might emerge through this method, which simulates organizational problem solving through correspondence.
- The problem could be acted out rather than explained orally. The skit could be videotaped so that it can easily be replayed after the consensus-seeking phase.

Submitted by Amy Zelmer.

■ **ALPHABET NAMES: ACHIEVING SYNERGY IN TASK GROUPS**

Goals

- To allow participants to experience the effects of synergy on group tasks.
- To explore the relationship between group commitment to a task and synergy.

Group Size

Up to four subgroups of eight to fifteen members each.

Time Required

Forty-five minutes to one hour.

Materials

- Blank paper and a pencil for each participant.
- Newsprint and a felt-tipped marker for each subgroup and for the facilitator.

Physical Setting

A chair for each participant, with chairs to be arranged in a semicircle for each subgroup.

Process

1. The facilitator distributes paper and a pencil to each participant. He or she instructs the participants to list the letters of the alphabet from “A” through “Z” in a vertical column on the left side of the paper.
2. The facilitator randomly selects a sentence from any written document and reads out loud the first twenty-six letters in that sentence. Participants are instructed to write these letters in a vertical column to the right of the listed alphabet, so that all participants have twenty-six identical sets of two letters. The facilitator announces that the two letters in each set represent the first and last initials of a person’s name.
3. Participants are instructed that they will have ten minutes to individually record the names of famous people whose initials correspond to any of the twenty-six sets of letters. Only one name per set of initials is permitted. The maximum score is twenty-six points, one point for each legitimate name using both initials.
4. After ten minutes, the facilitator instructs the participants to exchange papers, and to “grade” each other’s papers, checking any names they do not recognize with the

person who wrote them and/or with the facilitator. The facilitator then records the individual high score and computes the total group's average on newsprint.

5. Subgroups are formed, and the facilitator instructs each set of subgroup members that as a subgroup working together they will have ten minutes to develop a second list of famous names. As the facilitator reads off a new randomly selected sentence, a member of each subgroup records the initial letters on the subgroup's newsprint to the right of a column of alphabet letters. The process then continues with each subgroup formulating a list of up to twenty-six names and recording them on newsprint. (Ten minutes.)
6. After ten minutes, the facilitator reviews the subgroups' lists and checks the listed names. He or she compares the subgroups' scores to the average score and individual high score from the first part of the experience and posts them on newsprint.
7. The facilitator leads a discussion of the experience, focusing on differences in individual motivation and frustration, the variety and scope of names used, and how these differences are evidence of differences in individuals. He or she then focuses on the concept of synergy and relates it to the group in terms of:
 - Team score for the second round compared to the individual average score and individual high score from the first round;
 - Team commitment;
 - Team collaboration versus competition; and
 - Group potential versus individual potential.

The facilitator then discusses general implications (advantages and disadvantages) of working alone on a task versus working with others.

Variations

- The nominal-group technique can be used for the second round, using the names generated during the first round.
- Additional subgroups can be used, with some working as individuals and some as subgroups, for a comparison of the two methods.
- The letters of the alphabet can be used alone, without the second set of letters, with different categories to be listed, e.g., cars, food, articles of clothing.

Submitted by Richard P. Greco.

■ **CONSENSUS SEEKING: A COLLECTION OF TASKS**

Goals

- To make the participants aware of effective consensus-seeking behaviors in task groups.
- To explore the concept of synergy in reference to the outcomes of group decision making.

Group Size

Between five and twelve participants. Several groups may be directed simultaneously in the same room. (Synergistic outcomes are more likely to be achieved by smaller groups, i.e., five to seven participants.)

Time Required

Approximately one hour.

Materials

- A pencil for each participant.
- One copy for each participant of one of the following forms:
 - Life Crises Work Sheet
 - Dating Preferences Work Sheet
 - Trustworthiness of Occupations Work Sheet
 - Values Work Sheet
 - Whom to Leave Behind Work Sheet
 - Being a Teenager Work Sheet
 - Community Leader Work Sheet
 - Characteristics of a Good Teacher Work Sheet

Physical Setting

It is desirable to have subgroups seated around tables and to have them far enough apart so as not to disturb one another. Lapboards or desk chairs may be utilized instead of tables.

Process

1. The facilitator explains the objectives of the activity. Each participant is given a copy of the work sheet selected by the facilitator. The facilitator reads the instructions aloud, and tells the participants that their task is to rank-order the items according to the instructions on the form. Participants are to work independently during this phase. This step should take no more than ten minutes.
2. Subgroups are formed and given the task of deriving a ranking of the items by consensus. There must be substantial agreement (not necessarily unanimity) on the rank assigned to each item. Three ground rules are imposed in this phase:
 - No averaging.
 - No majority-rule voting.
 - No trading votes.

The following suggestions can be made about how consensus can be achieved:

- Members should avoid arguing in order to win as individuals. What is “right” is the best collective judgment of the group as a whole.
- Conflict on ideas, solutions, predictions, etc., should be viewed as helping rather than hindering the process of seeking consensus.
- Problems are solved best when individual members accept responsibility for both hearing and being heard, so that everyone is included in what is decided.
- Tension-reducing behaviors can be useful so long as meaningful conflict is not eased prematurely.
- Each member has the responsibility to monitor the processes through which work gets done and to initiate discussions of process when the work is becoming ineffective.
- The best results flow from a fusion of information logic, and emotion. Value judgments about what is best include members’ feelings about the data and the process of decision making.

The facilitator should stress that the subgroups should work hard to be successful. This phase should take about thirty minutes.

3. If the form used has a set of “right” answers, these are read aloud or posted by the facilitator. An individual’s score is the sum of the differences between what the correct rank is for each item and how he or she ranked it in the exercise. (Make all differences positive and add them up.) Participants are directed to derive the following statistics for each subgroup: range of individual scores, average of individual scores, score for subgroup consensus, and the difference between the average and the subgroup consensus score.

4. Subgroups debrief the processes that emerged during the consensus-seeking phase. Discussion questions such as the following might be read by the facilitator, posted, handed out, or used by process observers:
 - What behaviors *helped* the consensus seeking?
 - What behaviors *impeded* the process?
 - What pattern of decision making occurred?
 - Who were the influential members? How?
 - How did the group discover and use its information resources?
5. Subgroups are brought together to publish outcomes. If there were “right” answers, summary statistics from each group are posted on a chart such as the following:

Outcome	Subgroup 1	Subgroup 2	Subgroup 3
Range of Individual Scores			
Average of Individual Scores			
Score for Group Consensus			
Increment for Consensus Seeking			
Synergy			

(In this context, synergy is defined as the consensus score being lower than the lowest individual score in the group.)

If the form used does not have an answer key, the following type of chart can be used to post outcomes:

Item	Subgroup 1	Subgroup 2	Subgroup 3	Row Sum	Consensus Estimate
1. (Abbreviated)					
2.					
3.					
(etc.)					

(Abbreviate the items as labels, post the consensus rank of each subgroup, sum across each row, and rank these sums vertically. This final ranking represents the best estimate of the consensus that would be derived if all subgroups combined would have done the task together.)

6. The facilitator leads a discussion of the statistical results and explains the concept of synergy in reference to decision making in groups.

Variations

- Some of these work sheets may contain cultural biases, and editing of the contents may be required.
- Ranking forms can be developed readily both prior to the training session and during the event. For example, a list of top problems facing the organization can be written. This list can be rank-ordered by a random sample of members of the organization, and their responses can be tallied to develop an answer key. Also, within the training session a list of items can be developed by participants to generate the content of a ranking task. A survey of all participants can be conducted to develop a set of “right” answers.
- Subgroups can be encouraged to experiment with alternatives to formal voting procedures: seating themselves in the order of the way they ranked a given item as individuals, rating their agreement with each item, distributing points among alternatives, etc.
- The group-on-group design can be used to heighten participation for consensus seeking. Two rounds can be used, with two different ranking tasks.
- The facilitator can experiment with various subgroup sizes. Persons can be randomly assigned to subgroups and given a time limit for the consensus-seeking phase. They can be asked to rate their satisfaction with the outcomes before the scoring step is begun. Average satisfaction ratings can be compared across subgroups and can be discussed in relation to other statistical outcomes.
- Similar experiments can be devised to vary time limits for the consensus-seeking phase. For example, one subgroup can be given twenty minutes, another thirty minutes, and one no limit. Satisfaction data and outcomes can be compared. (A more complex design would be to study the effects of subgroup size and time limit simultaneously as in the following model that requires nine groups.)

	Subgroup Size		
Time	Small	Medium	Large
Brief			
Long			
No Limit			

- As an intergroup task, the same ranking form can be filled out by two subgroups. Then each subgroup can be instructed to predict the ranking of the other subgroup. The two can be brought together to publish their actual rankings and sets of

predictions. This activity gives each subgroup a “mirror image” of itself and can lead to more effective communication.

- Participants can be asked to rank-order one another (independently) in terms of the amount of influence each had on the consensus-seeking outcomes. Then each participant derives a score for himself or herself based on the differences between self-ranking of the items and the consensus ranking. The average influence ranks and the deviation scores are then correlated.
- Sequential consensus exercises can be used, so that subgroups build on what was learned in the first phase. New subgroups can be formed for the second round. One task may have “right” answers, and the other may not. The subgroup may create its own instrument for the second phase.
- The facilitator can save considerable time and confusion by handing out two copies of the work sheet to each participant. The participant fills in both copies along with a subgroup identification number before the subgroup begins its discussion. Each participant hands one copy to the facilitator and keeps the other for the subgroup consensus discussion. While the subgroups are involved in developing a consensus ranking, the facilitator may find each subgroup’s range of individual scores and average of individual scores. This task goes most quickly if there are several staff members available. A chart of all results may be developed and shared with all participants.

Answer Keys

1. Life Crises

First Level	Second Level	Third Level
1. K	4. L	10. F
2. B	5. J	11. I
3. G	6. H	12. C
	7. D	
	8. E	
	9. A	

2. Dating Preferences

First Level	Second Level	Third Level	Fourth Level
1. J	3. G	7. I	12. H
2. K	4. B	8. A	
	5. D	9. F	
	6. E	10. C	
		11. L	

3. Trustworthiness of Occupations

- | | |
|------------------------------|-------------------------------------|
| 1. Physicians | 9. Executives of large corporations |
| 2. Clergy | 10. Military generals |
| 3. Judges | 11. TV technicians |
| 4. Psychologists | 12. Automobile mechanics |
| 5. College professors | 13. Labor union officials |
| 6. Lawyers | 14. Politicians |
| 7. Law enforcement officials | 15. Used car salespeople |
| 8. TV news reporters | |

The work sheets were developed by the following facilitators: Don Keyworth (Life Crisis, Dating Preferences, and Community Leader), John J. Sherwood (Trustworthiness of Occupations and Whom to Leave Behind), John Jones (Values Work Sheet), Ann Dew and Suzanne Pavletich (Being a Teenager), and Ronald D. Jorgenson and Brant Holmberg (Characteristics of a Good Teacher).

CONSENSUS SEEKING LIFE CRISES WORK SHEET

Introduction: Some events in our lives require significant personal and social readjustment. A survey asked people to rate these life crises as to the amount of readjustment they require: MAJOR, MODERATE, MILD. (*Psychology Today*, April, 1972, pp. 71-72 and 106.)

Instructions: Rank each of the following crisis events according to your estimation of how the people surveyed regarded the intensity of the event. The number of spaces given in each level indicates the number of items to be placed there. Place the letter corresponding to each of the items in the list below in the blanks under each level.

Crisis events to be ranked under the three levels:

- A. Foreclosure of mortgage or loan
- B. Divorce
- C. Vacation
- D. Personal sex difficulties
- E. Death of close friend
- F. Son or daughter leaving home

- G. Personal injury or illness
- H. Pregnancy
- I. Change in residence
- J. Loss of job
- K. Death of spouse
- L. Marriage

First Level:
MAJOR

- 1. _____
- 2. _____
- 3. _____

Second Level:
MODERATE

- 4. _____
- 5. _____
- 6. _____
- 7. _____
- 8. _____
- 9. _____

Third Level:
MILD

- 10. _____
- 11. _____
- 12. _____

CONSENSUS SEEKING DATING PREFERENCES WORK SHEET

Introduction: Periodically Harvard men were asked to rate the standards by which they chose women to date. They were asked to describe each characteristic as: ESSENTIAL, HELPFUL, MAKES NO DIFFERENCE, or UNDESIRABLE. (*Psychology Today*, January, 1972, pp. 65-68.)

Instructions: Rank each of the following characteristics according to your estimation of their importance to Harvard men. The number of spaces given in each level indicates the number of items to be placed there.

List of characteristics to be ranked under the four levels:

- A. Religious
- B. Well-dressed
- C. Altruistic
- D. Intellectually sophisticated
- E. Sexually liberated
- F. Socially equal

- G. Effervescent personality
- H. Unconventional lifestyle
- I. Good reputation
- J. Good conversationalist
- K. Sexually attractive
- L. Quiet personality

First Level: *ESSENTIAL*

- 1. _____
- 2. _____

Second Level: *HELPFUL*

- 3. _____
- 4. _____
- 5. _____
- 6. _____

Third Level: *MAKES NO DIFFERENCE*

- 7. _____
- 8. _____
- 9. _____
- 10. _____
- 11. _____

Fourth Level: *UNDESIRABLE*

- 12. _____

CONSENSUS SEEKING TRUSTWORTHINESS OF OCCUPATIONS WORK SHEET

Instructions: A study was conducted at the University of Connecticut concerning attitudes toward the trustworthiness of twenty occupations. About four hundred people rated the various occupations according to the following instructions: "In their dealings with the public, can members of this occupation usually be counted on to tell the truth to the best of their knowledge, regardless of the reason? If you think they may deliberately lie or twist or distort the truth, it is not important for this rating what their reasons are." In spite of differences in age, occupations, sex, education, and locale of the raters, the respondents were remarkably similar in their assessments of the trustworthiness of the various occupations.

Below is a list of fifteen occupations included in this study. Your task is to rank these fifteen occupations in the same order of trustworthiness as the sample of four hundred people did. Place the number 1 by the occupation you think was ranked as the most trusted, place the number 2 by the second most trusted occupation and so on through the number 15, which is your estimate of the least trusted of the fifteen occupations.

- | | |
|--|---------------------------------|
| _____ Executives of large corporations | _____ Automobile mechanics |
| _____ College professors | _____ Law enforcement officials |
| _____ Military generals | _____ Judges |
| _____ Clergy | _____ Politicians |
| _____ Used car salespeople | _____ TV technicians |
| _____ Physicians | _____ Psychologists |
| _____ Labor union officials | _____ TV news reporters |
| _____ Lawyers | |

CONSENSUS SEEKING VALUES WORK SHEET

Instructions: Complete the following sentences in your own words. Then compare your responses to those of the other members of your subgroup in order to generate a set of commonly held values in interpersonal relations. In the discussion you have four tasks: (1) to make yourself heard, (2) to hear others accurately, (3) to listen for themes, and (4) to collaborate on the subgroup consensus.

People should . . .

People should never . . .

A boss . . .

A subordinate . . .

A friend . . .

A spouse . . .

I get excited when . . .

I want to be remembered as a person who . . .

The most worthwhile thing a person could do is . . .

CONSENSUS SEEKING WHOM TO LEAVE BEHIND WORK SHEET

Instructions: The ten people listed below have been selected as passengers on a space ship for a flight to another planet because tomorrow the planet Earth is doomed for destruction. Because of changes in space limitations, it has now been determined that only seven people may go. Any seven qualify.

Your task is to select the seven passengers. There are therefore *three* people now on the list who will not go. Place the number 1 by the person you think should be *removed first* from the list of passengers; place the number 2 by the person you think should be removed second from the list; and, finally, place the number 3 by the person you think should be removed third from the list. Choose *only three*. These are the three people who will not make the trip. They are to be left behind.

- | | |
|--|---|
| _____ An accountant | _____ An African-American medical student |
| _____ The accountant's pregnant wife | _____ A famous novelist |
| _____ A liberal arts student | _____ A biochemist |
| _____ A professional basketball player | _____ A 70-year-old member of the clergy |
| _____ An intelligent female movie star | _____ An armed police officer |

CONSENSUS SEEKING BEING A TEENAGER WORK SHEET

Instructions: You are asked to rank the following statements. Place a number 1 to the left of the statement you decide is the most correct about teenagers. The next most correct statement would be number 2, and the least correct would be marked as number 8.

- _____ A. The opinions of teenagers are equally as important as those of their parents.
- _____ B. If there are any changes or reforms made in society, they will come from today's vocal teenagers, rather than from adults.
- _____ C. Being a teenager is a safe age—you aren't expected to behave like an adult, but you aren't treated like a child.
- _____ D. Advice from friends is worth more than advice from parents.
- _____ E. Being a teenager has its advantages and disadvantages, just like any other age group.
- _____ F. Time is the only thing in a teenager's favor. If you can just wait out the years until you are twenty, then it will be easy going.
- _____ G. This country will be better off if today's teenagers will end up being like their parents.
- _____ H. What teenagers really want is to be able to voice their opinions and make their own decisions.

CONSENSUS SEEKING COMMUNITY LEADER WORK SHEET

Instructions: Below is a list of characteristics that might be used to describe a community leader. Your task is to select from this list the five characteristics that you believe are the most important for a community leader and to rank the five characteristics in order of importance (1 is most important; 5, least important).

Which five of the following characteristics are most important for a community leader?

- _____ Initiative
- _____ Interested in people
- _____ Well organized
- _____ Awareness of local politics
- _____ Intelligence
- _____ Emotional stability
- _____ Cultural interests
- _____ Loyalty to community
- _____ Generalized experience
- _____ Specialized experience
- _____ Sense of humor
- _____ Good socializer
- _____ Respect in community
- _____ Financial independence
- _____ Physical health and vigor
- _____ Grasp of local issues

CONSENSUS SEEKING CHARACTERISTICS OF A GOOD TEACHER WORK SHEET

Instructions: Your task is to rank the items below as you perceive them in order of importance from 1 to 10, one being the most important characteristic. It may be helpful if you proceed from 1 (most) to 10 (least), 2 (second-most) to 9 (second-least), etc.

After each of you has made a ranking, you will then be asked to form into designated subgroups and discuss the items below until you arrive at consensus about the importance of the items as you see them.

Your Ranking	Ranking by Group Consensus	
()	()	The teacher's classes are usually well-disciplined and orderly.
()	()	The teacher uses many methods to keep in touch with how pupils feel about his/her teaching, their work, and themselves.
()	()	The teacher sets high standards of academic achievement and does not allow sloppy, careless work to get by.
()	()	The teacher admits his/her own errors to pupils openly and easily.
()	()	The teacher allows pupils (individually and as a group) to make many decisions about their activities, their use of time, and their room.
()	()	Other teachers report he/she is helpful, cooperative, and stimulating to work with.
()	()	Parents report that their conferences with him/her are valuable and enlightening.
()	()	The teacher keeps up to date on the subject matter of anything he/she teaches.
()	()	The teacher's pupils discuss almost anything with him/her without fear of hesitation.
()	()	The teacher places great emphasis on pupils learning to work together effectively and to understand one another.

■ KERNER REPORT: A CONSENSUS-SEEKING TASK

Goals

- To compare the results of individual decision making with the results of group decision making.
- To generate data to discuss decision-making patterns in task groups.
- To diagnose the level of development in a task group.

Group Size

Between five and twelve participants. Several subgroups may be directed simultaneously in the same room. (Synergistic outcomes are more likely to be achieved by smaller groups, i.e., five to seven participants.)

Time Required

Approximately one hour.

Materials

- One copy of the Kerner Report Work Sheet for each participant.
- A pencil for each participant.
- A newsprint flip chart and a felt-tipped marker for the facilitator's use.

Physical Setting

Participants should be seated around a square or a round table. (A rectangular table gives too much control to people seated at the ends.) Alternatively, lapboards may be provided for participants seated in a circle.

Process

1. The facilitator explains the goals of the activity. Each participant is given a copy of the work sheet. The facilitator reads the instructions aloud and explains that the task is to rankorder the grievances on the form under three levels of intensity. Participants are to work *individually* during this phase, which should take no more than ten minutes.
2. The participants are asked to form subgroups and asked to derive a ranking of the items by consensus. There must be *substantial agreement* (not necessarily

unanimity) on the rank assigned. Three ground rules are imposed in this phase, and are listed below:

- No averaging.
- No “majority-rule” voting.
- No trading votes.

Following are some suggestions about how consensus can be achieved:

- Members should avoid arguing in an attempt to win as individuals. What is “right” is the best collective judgment of the group as a whole.
- Conflict about ideas, solutions, predictions, etc., should be viewed as helping rather than hindering consensus.
- Problems are solved best when individual group members accept responsibility for both listening and contributing, so that everyone is included in the decision.
- Tension-reducing behaviors can be useful if meaningful conflict is not eased prematurely.
- Each member is responsible for monitoring the processes through which work gets done and for initiating discussions of process when work is becoming ineffective.
- The best results flow from a fusion of information, logic, and emotion. Value judgments include members’ feelings about the data and about the process of decision making.

The facilitator should stress that the groups must work hard to be successful. This phase should take about thirty minutes.

3. The “right” answers are read aloud or posted by the facilitator, using the following answer key:

First Level of Intensity

- D Police practices.
- J Unemployment and underemployment.
- E Inadequate housing.

Second Level of Intensity

- H Inadequate education.
- C Poor recreational facilities and programs.
- K Ineffective political structure and grievance mechanisms.

Third Level of Intensity

- B Disrespectful attitudes of other groups.

- F Discriminatory administration of justice.
 - I Inadequate federal programs.
 - L Inadequate municipal services.
 - A Discriminatory consumer and credit practices.
 - G Inadequate welfare programs.
4. Participants are instructed to compute their own scores by calculating the differences between their rankings and the solution. All differences are added together as positives, regardless of which ranking was higher, in order to determine each participant's score. Participants are directed to derive the following statistics for each subgroup: the range of individual scores, the average of individual scores, the score for group consensus, and the difference between the average and the group consensus score.
 5. Each subgroup computes the average score of the individual members, compares this with the subgroup's score, and discusses the implications of the experience. This processing might be focused on leadership, compromise decision-making strategies, the feeling content of the exercise, the roles played by members, or other aspects of group life.

Variations

Ranking forms can be developed both before the training session and during the event. For example, a list of top problems facing the group involved can be written. This list can be rank-ordered by a random sample of members of the group, and their responses can be tallied to develop an answer key. Also, within the training session, a list of items can be developed by participants for a ranking task. A survey of all participants can be conducted to develop a set of "right" answers.

- Groups can be encouraged to experiment with alternatives to formal voting procedures: They can seat themselves in the order that they ranked a given item as individuals; they can rate their agreement with each item; or they can distribute points among alternatives.
- The group-on-group design can be used to heighten participation in consensus seeking. Two rounds can be used, with two different ranking tasks.
- The facilitator can experiment with various subgroup sizes. Participants can be assigned randomly to subgroups and given a time limit for consensus seeking. They can rate their satisfaction with the outcomes before the scoring. The subgroups' average satisfaction ratings can be compared to other statistical outcomes.
- Similar experiments can be devised to vary time limits for consensus seeking. For example, one subgroup can be given twenty minutes, another thirty minutes, and one unlimited time. Satisfaction data and outcomes can be compared. (A more complex

design would be to study the effects of group size and time limit simultaneously, as in the following model which requires nine groups.)

	Subgroup Size		
Time	Small	Medium	Large
Brief			
Long			
No Limit			

- As an intergroup task, the same ranking form can be filled out by two subgroups. Then each subgroup can be instructed to predict the ranking of the other subgroup. The two can be brought together to publish their actual rankings and sets of predictions. This activity gives each subgroup a “mirror image” of itself and can lead to more effective communication.
- Participants can be asked to rank-order one another (independently) in terms of the amount of influence each had on the consensus-seeking outcomes. Then each participant derives a score for himself or herself based on the differences between self-ranking of the items and the consensus ranking. The average influence ranks and the deviation scores are then correlated.
- Sequential consensus exercises can be used, so that subgroups build on what was learned in the first phase. New subgroups can be formed for the second round. One task may have “right” answers, and the other may not. The subgroup may create its own instrument for the second phase.
- The facilitator can save considerable time and confusion by handing out two copies of the work sheet to each participant. The participant fills in both copies along with a subgroup identification number before the subgroup begins its discussion. Each participant hands one copy to the facilitator and keeps the other for the subgroup consensus discussion. While the subgroups are involved in developing a consensus ranking, the facilitator may find each subgroup’s range of individual scores and average of individual scores. This task goes most quickly if there are several staff members available. A chart of all results may be developed and shared with all participants.

KERNER REPORT WORK SHEET

Introduction: In gathering data on twenty-four disorders in twenty-three cities, the Special Riot Commission Report (Kerner Report) found that “Although specific grievances varied from city to city, at least twelve deeply held grievances can be identified and ranked into three levels of relative intensity.”

Instructions: You are part of an evaluating team for the Special Riot Commission. Among the data gathered are twelve basic grievances of those involved in the rioting. Having reviewed all the data, you choose to rank the grievances under three levels of intensity, the first being the highest.

List of grievances to be ranked under the three levels:

- A. Discriminatory consumer and credit practices
- B. Disrespectful attitudes of other groups
- C. Poor recreational facilities and programs
- D. Police practices
- E. Inadequate housing
- F. Discriminatory administration of justice
- G. Inadequate welfare programs
- H. Inadequate education
- I. Inadequate federal programs
- J. Unemployment and underemployment
- K. Ineffective political structure and grievance mechanisms
- L. Inadequate municipal services

First Level of Intensity		Second Level of Intensity		Third Level of Intensity	
You	Your Group	You	Your Group	You	Your Group
1. ()	()	4. ()	()	7. ()	()
2. ()	()	5. ()	()	8. ()	()
3. ()	()	6. ()	()	9. ()	()
				10. ()	()
				11. ()	()
				12. ()	()

■ **LETTER OCCURRENCE: A CONSENSUS-SEEKING TASK**

Goals

- To compare decisions made by individuals with those made by groups.
- To teach effective consensus-seeking techniques.
- To demonstrate the phenomenon of synergy.

Group Size

Subgroups of five to twelve members each. Several subgroups may be directed simultaneously in the same room. (Synergy is more likely to be achieved with smaller groups, i.e., five to seven members.)

Time Required

Approximately one hour per task.

Materials

- A pencil for each participant.
- A copy of the Letter Occurrence Ranking Work Sheet for each participant and for each subgroup.

Physical Setting

Each subgroup should be seated around a square or round table, far enough away from other subgroups to be able to work without distractions. Lapboards may be used.

Process

1. The facilitator distributes copies of the Letter Occurrence Ranking Work Sheet to all participants and directs them to rank the items according to instructions on the form. (The facilitator may read the instructions aloud.) Participants are instructed to work independently and are given ten minutes to complete the ranking.
2. Subgroups are formed, and one copy of the Letter Occurrence Ranking Work Sheet is given to each subgroup. Members are told to develop a subgroup consensus on the rank to be assigned to each item. The following ground rules are presented:
 - An individual is not to change any answers on his or her first work sheet as a result of the subgroup decision.
 - One member of the subgroup is to record the consensus decision on the subgroup's work sheet.

- The subgroup has thirty minutes to complete its ranking.
 - Subgroup members must substantially agree on the ranking of each item.
 - Averaging, majority-rule voting, and the making of “deals” are to be avoided.
3. The facilitator announces (and may post) the “correct” answers. Participants score their individual work sheets by adding the differences between their ranks and the “correct” ranks (all differences are made positive and added together). The lower the score, the closer it is to the rankings on the key. One member from each subgroup also computes the subgroup’s score from the consensus work sheet.
4. Each subgroup then computes the average score of its individual members and compares this with the subgroup’s score. Subgroups are brought together to publish outcomes. Summary statistics from each subgroup are posted on a chart such as the following:

Outcome	Subgroup 1		Subgroup 2		Subgroup 3	
Range of Individual Scores						
Average of Individual Scores						
Score for Group Consensus						
Increment for Consensus Seeking						
Synergy*	Yes	No	Yes	No	Yes	No

*In this context, synergy is defined as the consensus score being lower than the lowest individual scores in the group.

5. The implications of the experience are then discussed, with emphasis on such points as:
- What form did the subgroup discussion take? What helped consensus seeking? What hindered it?
 - What kind of leadership emerged? How did members influence the subgroup?
 - How did the subgroup discover and use information resources? Did any members reserve private information such as the layout of typewriter keys, the relative simplicity of symbols in the Morse Code, etc.?
 - How were disagreements resolved, compromises achieved, decisions made?
 - How do the individual members feel about the process and outcomes?

Variations

- Ranking forms can be developed readily both prior to the training session and during the event. For example, a list of top problems facing the organization can be written. This list can be rank-ordered by a random sample of members of the organization, and their responses can be tallied to develop an answer key. Also, within the training session a list of items can be developed by participants to generate the content of a ranking task. A survey of all participants can be conducted to develop a set of “right” answers.
- Subgroups can be encouraged to experiment with alternatives to formal voting procedures: seating themselves in the order of the way they ranked a given item as individuals, rating their agreement with each item, distributing points among alternatives, etc.
- The group-on-group design can be used to heighten participation for consensus seeking. Two rounds can be used, with two different ranking tasks.
- The facilitator can experiment with various subgroup sizes. People can be randomly assigned to subgroups and given a time limit for the consensus-seeking phase. They can be asked to rate their satisfaction with the outcomes before the scoring step is begun. Average satisfaction ratings can be compared across subgroups and can be discussed in relation to other statistical outcomes.

Answer Key

Letter Occurrence¹

- | | |
|------|-------|
| 1. E | 9. H |
| 2. T | 10. D |
| 3. A | 11. L |
| 4. O | 12. F |
| 5. N | 13. C |
| 6. R | 14. M |
| 7. I | 15. U |
| 8. S | |

¹ Based on material in A.E. Karbowiak and R.M. Huey, *Information, Computers, Machines, and Man*, New York: John Wiley, 1971.
Submitted by Kenneth D. Scott.

LETTER OCCURRENCE RANKING WORK SHEET

Instructions: Following is a list of the fifteen letters that occur most often in written English. Your task is to rank these letters in the same order as their actual frequency of occurrence. Place the number 1 by the letter that you think is most frequently used, place the number 2 by the second most frequently occurring letter, and continue through number 15, which is your estimate of the letter used least frequently.

_____ N
_____ T
_____ S
_____ D
_____ U
_____ L
_____ E
_____ C

_____ F
_____ I
_____ R
_____ H
_____ M
_____ A
_____ O

■ **LOST AT SEA: A CONSENSUS-SEEKING TASK**

Goals

- To teach the effectiveness of consensus-seeking behavior in task groups through comparative experiences with both individual decision making and group decision making.
- To explore the concept of synergy in reference to the outcomes of group decision making.

Group Size

Five to twelve participants. Several subgroups may be directed simultaneously. (Synergistic outcomes are more likely to be achieved by smaller subgroups, e.g., five to seven participants.)

Time Required

Approximately one hour.

Materials

- Two copies of the Lost at Sea Individual Work Sheet for each participant.
- A copy of the Lost at Sea Group Work Sheet for each subgroup.
- A copy of the Lost at Sea Answer and Rationale Sheet for each participant.
- Pencils.
- Newsprint and felt-tipped markers.

Physical Setting

Lapboards or desk chairs are best for privacy in individual work. Tables may be used, but the dynamics involved are likely to be different.

Process

1. The facilitator distributes two copies of the Lost at Sea Individual Work Sheet to each participant and asks each person to complete the forms in duplicate. He or she explains that participants are to work independently during this phase. (Fifteen minutes.)
2. The facilitator collects one copy from each participant. The other copy is for the use of the subgroup.

3. The facilitator forms subgroups and directs them to particular work areas in the room. Each subgroup is given a copy of the Lost at Sea Group Work Sheet. The facilitator then reads the instructions to the subgroups, emphasizing that each member of a subgroup should partially agree with the subgroup choices to establish consensus, but that they are not to use such techniques as averaging, majority-rule voting, or trading. He or she stresses that it is desirable that effort be made to achieve success in this task.
4. While the subgroups are engaged in their task, the facilitator scores the individual ranking sheets. The score is the sum of the differences between the “correct” rank for each item and its rank on the Individual Work Sheet (all differences should be made positive and added). Higher scores have greater negative implications. The facilitator then totals all individual scores for each subgroup and divides by the number of members to obtain the average individual score for each subgroup. (Thirty-five minutes.)
5. The facilitator collects the Group Work Sheets and scores them as in step 4, while the participants debrief their consensus seeking. He or she then prepares a chart such as the one following, summarizing the statistics:

BEFORE SUBGROUP DISCUSSION

Subgroup	Average Individual Score	Score of Most Accurate Individual
Example	55	45
1		
2		
3		
Average for all subgroups		

AFTER SUBGROUP DISCUSSION

Subgroup	Score for Subgroup Consensus	Gain/Loss Over Average Individual	Gain/Loss Over Most Accurate Individual	Synergy*
Example	40	+15	+5	Yes
1				
2				
3				
Average for all Subgroups				

*Synergy is defined as the consensus score lower than the lowest individual score in the subgroup.

6. The facilitator returns all Individual and Group Work Sheets and distributes a copy of the Lost at Sea Answer and Rationale Sheet to each participant. After allowing the subgroups a few minutes to discuss the answers and rationale, the facilitator analyzes the statistics and explains the synergy factor.
7. The facilitator leads a discussion of the comparative outcomes of individual rankings and subgroup consensus rankings. Discussion questions such as the following might be suggested by the facilitator:
 - What behaviors helped or hindered the consensus-seeking process?
 - What patterns of decision making occurred?
 - Who were the influential members and how were they influential?
 - How did the group discover and use its information resources? Were these resources fully utilized?
 - What are the implications of consensus seeking and synergistic outcomes for intact task groups such as committees and staffs of institutions?
 - What consequences might such a process produce in the group's attitudes?

Variations

- Process observers can be used to give feedback about either subgroup or individual behavior.
- A lecturette on synergy and consensus seeking can immediately precede the group problem-solving phase to establish a mental set toward cooperation.
- Each participant can be given only one copy of the Lost at Sea Individual Work Sheet and instructed to score his or her own sheet.

Submitted by Paul M. Nemiroff and William A. Pasmore.

LOST AT SEA INDIVIDUAL WORK SHEET

Name _____
Subgroup _____

Instructions: You are adrift on a private yacht in the South Pacific. As a consequence of a fire of unknown origin, much of the yacht and its contents have been destroyed. The yacht is now slowly sinking. Your location is unclear because of the destruction of critical navigational equipment and because you and the crew were distracted trying to bring the fire under control. Your best estimate is that you are approximately one thousand miles south-southwest of the nearest land.

Following is a list of fifteen items that are intact and undamaged after the fire. In addition to these articles, you have a serviceable, rubber life raft with oars. The raft is large enough to carry yourself, the crew, and all the items in the following list. The total contents of all survivors' pockets are a package of cigarettes, several books of matches, and five one-dollar bills.

Your task is to rank the fifteen items that follow in terms of their importance to your survival. Place the number 1 by the most important item, the number 2 by the second most important, and so on through number 15, the least important.

- _____ Sextant
- _____ Shaving mirror
- _____ Five-gallon can of water
- _____ Mosquito netting
- _____ One case of U.S. Army C rations
- _____ Maps of the Pacific Ocean
- _____ Seat cushion (flotation device approved by the Coast Guard)
- _____ Two-gallon can of oil-gas mixture
- _____ Small transistor radio
- _____ Shark repellent
- _____ Twenty square feet of opaque plastic
- _____ One quart of 160-proof Puerto Rican rum
- _____ Fifteen feet of nylon rope
- _____ Two boxes of chocolate bars
- _____ Fishing kit

LOST AT SEA GROUP WORK SHEET

Subgroup _____

Instructions: This is an exercise in group decision making. Your subgroup is to employ the group consensus method in reaching its decision. This means that the prediction for each of the fifteen survival items must be agreed on by each subgroup member before it becomes a part of the subgroup decision. Consensus is difficult to reach. Therefore, not every ranking will meet with everyone's complete approval. As a subgroup, try to make each ranking one with which all members can at least partially agree. Here are some guides to use in reaching consensus.

1. Avoid arguing for your own individual judgments. Approach the task on the basis of logic.
2. Avoid changing your mind if it is only to reach agreement and avoid conflict. Support only solutions with which you are able to agree at least somewhat.
3. Avoid "conflict-reducing" techniques such as majority vote, averaging, or trading in reaching your decision.
4. View differences of opinion as a help rather than a hindrance in decision making.

- _____ Sextant
- _____ Shaving mirror
- _____ Five-gallon can of water
- _____ Mosquito netting
- _____ One case of U.S. Army C rations
- _____ Maps of the Pacific Ocean
- _____ Seat cushion (flotation device approved by the Coast Guard)
- _____ Two-gallon can of oil-gas mixture
- _____ Small transistor radio
- _____ Shark repellent
- _____ Twenty square feet of opaque plastic
- _____ One quart of 160-proof Puerto Rican rum
- _____ Fifteen feet of nylon rope
- _____ Two boxes of chocolate bars
- _____ Fishing kit

LOST AT SEA ANSWER AND RATIONALE SHEET¹

According to the “experts,” the basic supplies needed when a person is stranded in midocean are articles to attract attention and articles to aid survival *until rescuers arrive*. Articles for navigation are of little importance: Even if a small life raft were capable of reaching land, it would be impossible to store enough food and water to subsist during that period of time. Therefore, of primary importance are the shaving mirror and the two-gallon can of oil-gas mixture. These items could be used for signaling air-sea rescue. Of secondary importance are items such as water and food, e.g., the case of Army C rations.

A brief rationale is provided for the ranking of each item. These brief explanations obviously do not represent all of the potential uses for the specified items but, rather, the primary importance of each.

1. Shaving mirror

Critical for signaling air-sea rescue.

2. Two-gallon can of oil-gas mixture

Critical for signaling—the oil-gas mixture will float on the water and could be ignited with a dollar bill and a match (obviously, outside the raft).

3. Five-gallon can of water

Necessary to replenish loss from perspiring, etc.

4. One case of U.S. Army C rations

Provides basic food intake.

5. Twenty square feet of opaque plastic

Utilized to collect rain water, provide shelter from the elements.

6. Two boxes of chocolate bars

A reserve food supply.

7. Fishing kit

Ranked lower than the candy bars because “one bird in the hand is worth two in the bush.” There is no assurance that you will catch any fish.

8. Fifteen feet of nylon rope

May be used to lash equipment together to prevent it from falling overboard.

9. Floating seat cushion

If someone fell overboard, it could function as a life preserver.

10. Shark repellent

Obvious.

¹ Officers of the United States Merchant Marines ranked the fifteen items and provided the “correct” solution to the task.

11. One quart of 160-proof Puerto Rican rum

Contains 80 percent alcohol—enough to use as a potential antiseptic for any injuries incurred; of little value otherwise; will cause dehydration if ingested.

12. Small transistor radio

Of little value because there is no transmitter (unfortunately, you are out of range of your favorite radio stations).

13. Maps of the Pacific Ocean

Worthless without additional navigational equipment—it does not really matter where you are but where the rescuers are.

14. Mosquito netting

There are no mosquitoes in the mid-Pacific Ocean.

15. Sextant

Without tables and a chronometer, relatively useless.

The basic rationale for ranking signaling devices above life-sustaining items (food and water) is that without signaling devices there is almost no chance of being spotted and rescued. Furthermore, most rescues occur during the first thirty-six hours, and one can survive without food and water during this period.

■ OCCUPATIONS: A CONSENSUS-SEEKING TASK

Goals

- To compare the results of individual and group decision making.
- To generate data to discuss decision-making patterns in task groups.

Group Size

Between five and twelve participants, smaller groups being preferable. Several groups may be directed simultaneously in the same room.

Time Required

Approximately one hour.

Materials

- One copy of the Occupations Work Sheet for each participant.
- A pencil for each participant.

Physical Setting

Small groups should be seated around tables, with the groups far enough apart so as not to disturb one another. Lapboards or desk chairs may be used instead of tables.

Process

1. The facilitator explains the goals of the activity. Each participant is given an Occupations Work Sheet. The facilitator reads the instructions aloud and explains that the task is to rank-order the items according to the instructions. Participants are to work individually during this phase, which should take no more than ten minutes.
2. The participants are asked to form subgroups and to derive a ranking of the items by consensus. There must be *substantial agreement* (not necessarily unanimity) on the rank assigned. Three ground rules are imposed in this phase:
 - No averaging.
 - No “majority-rule” voting.
 - No trading of votes.

The following suggestions about consensus may be helpful:

- Members should avoid arguing in an attempt to win as individuals. What is “right” is the best collective judgment of the group as a whole.
- Conflict about ideas, solutions, predictions, etc., should be viewed as helping rather than hindering the process of seeking consensus.
- Problems are solved best when individual group members accept responsibility for both listening and contributing, so that everyone is included in the decision.
- Tension-reducing behaviors can be useful if meaningful conflict is not eased prematurely.
- Each member is responsible for monitoring the processes through which work gets done and for initiating discussions of process when work is becoming ineffective.
- The best results flow from a fusion of information, logic, and emotion. Value judgments include members’ feelings about the data and about the process of decision making.

The facilitator should stress that the subgroups must work hard to be successful. This phase should take about thirty minutes.

3. The “right” answers are read aloud or posted by the facilitator. Participants compute their scores by determining the differences between each of their rankings and the rankings posted by the facilitator. Their scores are the sums of these differences. (All differences should be made positive and added together.) Participants are directed to derive the following statistics for each subgroup: the range of individual scores, the average of individual scores, the score for group consensus, and the difference between the average and the group consensus score.

Occupational Prestige Key:

- | | |
|----------------------------------|------------------------------|
| ■ U.S. Supreme Court justice (1) | ■ Banker (9) |
| ■ Physician (2) | ■ Sociologist (10) |
| ■ Scientist (3) | ■ Public school teacher (11) |
| ■ State governor (4) | ■ Author of novels (12) |
| ■ College professor (5) | ■ Undertaker (13) |
| ■ Lawyer (6) | ■ Newspaper columnist (14) |
| ■ Dentist (7) | ■ Police officer (15) |
| ■ Psychologist (8) | |

4. The group computes the average score of the individual members, compares this with the group's score, and discusses the implications of the experience. This processing might be focused on leadership, compromise, decision-making strategies, the feeling content of the exercise, the roles played by members, or other aspects of group life.

Variations

- Because the Occupations Work Sheet may contain cultural biases, editing of the contents may be required.
- Ranking forms can be developed readily both before the training session and during the event. For example, a list of top problems facing the group involved can be written. This list can be rank-ordered by a random sample of members of the group, and their responses can be tallied to develop an answer key. Also within the training session, a list of items can be developed by participants for a ranking task. A survey of all participants can be conducted to develop a set of "right" answers.
- Groups can be encouraged to experiment with alternatives to formal voting procedures. They can seat themselves in the order that they ranked a given item as individuals; they can rate their agreement with each item; they can distribute points among alternatives, etc.
- The group-on-group design can be used to heighten participation in consensus seeking. Two rounds can be used, with two different ranking tasks.
- The facilitator can experiment with various subgroup sizes. Participants can be assigned randomly to subgroups and given a time limit for consensus seeking. They can be asked to rate their satisfaction with the outcomes before the scoring is begun. Subgroups' average satisfaction ratings can be compared and discussed in relation to other statistical outcomes.
- Similar experiments can be devised to vary time limits for consensus seeking. For example, one subgroup can be given twenty minutes, another thirty minutes, and one unlimited time. Satisfaction data and outcomes can be compared. A more complex design would be to study the effects of group size and time limit simultaneously, as in the following model which requires nine groups.

	Subgroup Size		
Time	Small	Medium	Large
Brief			
Long			
No Limit			

- As an intergroup task, the same ranking form can be filled out by two subgroups. Then each subgroup can be instructed to predict the ranking of the other subgroup. The two can be brought together to publish their actual rankings and sets of predictions. This activity gives each subgroup a “mirror image” of itself and can lead to more effective communication between them.
- Participants can be asked to rank-order one another (independently) in terms of the amount of influence each had on the consensus-seeking outcomes. Then each participant derives a score for himself or herself based on the differences between the self-ranking of the items and the consensus ranking. The average influence ranks and the deviation scores are then correlated.
- Sequential consensus activities can be used, so that subgroups build on what was learned in the first phase. New subgroups can be formed for the second round. One task may have “right” answers, and the other may not. Other combinations are possible, such as having the subgroup create its own instrument for the second phase.
- The facilitator can save considerable time and confusion by handing out two copies of the ranking form to each participant. The participant fills in both copies along with a subgroup identification number before the subgroup begins its discussion. Each participant hands one copy to the facilitator and keeps the other for the consensus discussion. While the subgroups are involved in developing consensus rankings, the facilitator may calculate each group’s range of individual scores and average of individual scores. This task goes most quickly if there are several staff members available. A chart of all results may be developed and shared with all participants.

Submitted by John E. Jones.

OCCUPATIONS WORK SHEET

Instructions: Rank the following occupations according to the prestige attached to them. Place the number 1 in front of the occupation you believe most people would think most prestigious. Rank-order the remaining occupations through 15, the least prestigious.

- _____ Author of novels
- _____ Newspaper columnist
- _____ Police officer
- _____ Banker
- _____ U.S. Supreme Court justice
- _____ Lawyer
- _____ Undertaker
- _____ State governor
- _____ Sociologist
- _____ Scientist
- _____ Public school teacher
- _____ Dentist
- _____ Psychologist
- _____ College professor
- _____ Physician

■ RESIDENCE HALLS: A CONSENSUS-SEEKING TASK

Goals

- To study the degree to which members of a group agree on certain values.
- To assess the decision-making norms of the group.
- To identify the “natural leadership” functioning in the group.

Group Size

Between five and twelve participants. Several groups may be directed simultaneously in the same room. (Synergistic outcomes are more likely to be achieved by smaller groups, i.e., five to seven participants.)

Time Required

Approximately one hour.

Materials

- One copy of the Residence Halls Ranking Sheet for each participant.
- A pencil for each participant.

Physical Setting

It is desirable to have subgroups seated around tables and to have them far enough apart so as not to disturb one another. Lapboards or desk chairs may be utilized instead of tables.

Process

1. The facilitator announces the goals of the activity and asks the participants to form subgroups.
2. Each participant is given a copy of the Residence Halls Ranking Sheet. The facilitator functions as a timekeeper according to the schedule on the sheet. One or more members may function as observers.
3. After the allotted time, the total group discusses the process in terms of the stated goals.

Variations

- The ranking sheet can be easily revised to fit situations other than residence halls. The content may be the goals of the organization or group, characteristics of an ideal leader, desirable characteristics of teachers (principals, ministers, counselors, supervisors, employers, etc.), or any other relevant list. One suggestion might be to conduct a problem census of the organization or group and to use that list as the items to be rank-ordered.
- When several groups in the same organization (class, institution, etc.) engage in this experience simultaneously, it is sometimes helpful to summarize the rank orders for the several groups and to have a discussion of the agreements and disagreements among the groups.

RESIDENCE HALLS RANKING SHEET

Rank the following functions of the residence-hall system according to the importance *you* attach to each of them. Write the number 1 in front of the most important, the number 2 before the second most important, etc. You have ten minutes for this task.

After members of your subgroup have finished working individually, arrive at a rank ordering *as a group*. The group has thirty minutes for the task. Do not choose a formal leader.

Individual Rank	Group Rank	
_____	_____	Residence halls exist to help college students develop social maturity.
_____	_____	Residence-hall organizations should work to improve the quality of student life.
_____	_____	The residence hall is where students develop business and social contacts that will be helpful after graduation.
_____	_____	Residence halls provide a “home away from home” where the resident is accepted and wanted.
_____	_____	The residence-hall system encourages worthwhile fellowship.
_____	_____	The residence hall is an experiment in living, through which the student comes to know his or her prejudices and tries to overcome them.
_____	_____	Participation in residence-hall activities is training for leadership in adult life.
_____	_____	Residence halls support and enhance the classroom learning experience of students.
_____	_____	In the residence-hall system, students are treated as adults, not as adolescents who need to be controlled.
_____	_____	Residence halls function as laboratories for democratic action.

■ **RANKING CHARACTERISTICS: A COMPARISON OF DECISION-MAKING APPROACHES**

Goals

- To allow participants to experience three types of decision-making processes: autocratic, democratic, and consensual.
- To demonstrate and compare the relative time required for each of these processes.
- To explore the impacts of each of these approaches on the quality of the decisions, the participants' degrees of involvement in the processes, and their preferences for a particular approach.

Group Size

Any number of subgroups of five to nine members each.

Time Required

One to one and one-half hours.

Materials

- One copy of the Ranking Characteristics of a Good Parent Work Sheet for each participant.
- One copy of the Ranking Characteristics of a Good Trainer Work Sheet for each participant.
- One copy of the Ranking Characteristics of a Good Group Leader Work Sheet for each participant.
- One copy of the Ranking Characteristics Phase-I Leader's Instruction Sheet for each phase-I leader.
- One copy of the Ranking Characteristics Phase-II Leader's Instruction Sheet for each phase-II leader.
- One copy of the Ranking Characteristics Phase-III Leader's Instruction Sheet for each phase-III leader.
- A pencil for each participant.
- A writing surface for each participant.

- One newsprint copy of each of the three Ranking Characteristics Tally Forms prepared in advance of the activity.
- A large clock situated so that all participants can see it.
- A newsprint flip chart and a felt-tipped marker.
- Masking tape for posting newsprint.

Physical Setting

A room that is large enough for subgroups to work without disturbing one another.

Process

1. The participants are assembled into subgroups of five to nine members each, and a writing surface is provided for each participant. Each subgroup selects a phase-I leader, a phase-II leader, and a phase-III leader. (Five minutes.)
2. The facilitator meets in a separate area with the phase-I leaders, distributes the phase-I leader's instruction sheets, asks the leaders to read the sheets, and offers clarification if needed. The facilitator then gives them enough pencils and copies of the good parent work sheet to accommodate all members of their subgroups and sends them back to their subgroups. (Five minutes.)
3. While the facilitator is meeting with the leaders, each subgroup discusses important characteristics of a good parent.
4. The phase-I leaders explain the task to their subgroups and distribute a pencil and a copy of the good parent work sheet to every subgroup member, including themselves. At this point, the leader notices the time and records it and instructs the subgroup to start the task.
5. When all members of a subgroup have rated their work sheets, the leader asks each of them to share the top five characteristics selected. Then the leader tells them which five he or she selected and announces that his or her own work sheet will be turned in as the subgroup's decision. The leader again records the time and computes how long it took to make the decision.
6. Each phase-I leader writes the number of minutes it took for the decision to be made at the top of his or her own work sheet and gives the work sheet to the facilitator.
7. The facilitator meets with the group of phase-II leaders, distributes the phase-II leader's instruction sheets, asks the leaders to read the sheets, and offers clarification if needed. The facilitator then gives them enough copies of the good trainer work sheet to accommodate all members of their subgroups and sends them back to their subgroups. (Five minutes.)
8. While the facilitator is meeting with the leaders, each subgroup discusses how it felt about the way the decision was made.

9. The phase-II leaders explain the task to their subgroups and distribute a copy of the good trainer work sheet to every subgroup member, including themselves. At this point, each leader notices the time and records it and instructs his or her subgroup to start the task.
10. While the subgroups are working on the second task, the facilitator tallies the results of the first task and writes them on the newsprint copy of the phase-I tally form. The results are not shown to the participants at this point.
11. When all members of a subgroup have rated their work sheets, the leader asks each of them to share the top five characteristics selected. Then the leader tells them that one work sheet from the subgroup will be turned in as the subgroup's decision. The leader solicits nominations and takes a vote. When one person's work sheet has a majority of votes, the leader again records the time and computes how long it took to make the decision.
12. The owner of the winning work sheet writes the number of minutes required to make the decision at the top of the work sheet and gives the work sheet to the facilitator.
13. The facilitator meets with the group of phase-III leaders, distributes the phase-III leader's instruction sheets, asks the leaders to read the sheets, and offers clarification if needed. The facilitator then gives them enough copies of the good group leader work sheet to accommodate all members of their subgroups and sends them back to their subgroups. (Five minutes.)
14. While the facilitator meets with the leaders, each subgroup discusses important characteristics of a group leader.
15. The phase-III leaders explain the task to their subgroups and distribute a copy of the good group leader work sheet to every member, including themselves. At this point, the leader notices the time and records it and instructs the subgroup to start the task.
16. While the subgroups are working on the third task, the facilitator tallies the results of the second task and writes them on the newsprint copy of the phase-II tally form.
17. When all members of a subgroup have rated their work sheets, the leader asks each of them to share the top five characteristics selected. Then the leader tells them that they must reach consensus on the rankings and gives them suggestions on how to arrive at a consensus. When the subgroup reaches consensus, the leader changes his or her own work sheet to conform with the consensus. Then the leader again records the time and computes how long it took to make the decision.
18. The leader writes the number of minutes required to make the decision at the top of the work sheet and gives the work sheet to the facilitator.
19. Within each subgroup the members are asked to discuss how they felt about the three methods of decision making. While these discussions are taking place, the facilitator tallies the results of the third task and writes them on the newsprint copy of the phase-III tally form. (Five minutes.)

20. The total group is reassembled. The facilitator explains the three methods of decision making that were used, shows the results of each method, and leads a discussion on the following questions:
- Which process did you prefer? Why?
 - Which process produced the best results? How?
 - In which process were you most involved? In what ways were you involved to a greater degree in that process?
 - Under what circumstances might an autocratic decision be best? A democratic approach? A consensus approach? What might the drawbacks be of each approach?
 - What do the tally sheets seem to suggest about the differences in the three approaches?
 - Which decision-making process seems to be used most frequently in your work group? What changes would you like to see in that process? How could you help to promote those changes?

(Twenty minutes.)

Variations

- If time is limited, a third of the participants can use the autocratic process; a third, the democratic method; and a third, the consensus method.
- Post-decision rating forms can be distributed to all participants to determine the satisfaction with, enjoyment of, and involvement in each type of decision-making process.

Submitted by Charles A. LaJeunesse.

RANKING CHARACTERISTICS OF A GOOD PARENT WORK SHEET

Name _____

Instructions: Write your name at the top of this sheet. Below are listed some characteristics of a good parent. Your task is to select the five most important characteristics of a good parent and to rank these five from 1 (most important) to 5 (least important of the five you have selected).

- _____ Uses praise as well as punishment.
- _____ Sets good examples.
- _____ Spends time with the child.
- _____ Listens willingly to the child.
- _____ Uses discipline fairly and consistently.
- _____ Provides a stimulating environment.
- _____ Demonstrates affection.
- _____ Provides material necessities.
- _____ Allows the child to take risks.
- _____ Considers the child a person with rights.
- _____ Prevents the child from watching violence on television.

RANKING CHARACTERISTICS OF A GOOD TRAINER WORK SHEET

Name _____

Instructions: Write your name at the top of this sheet. Below are listed some characteristics of a good trainer. Your task is to select the five most important characteristics of a good trainer and to rank these five from 1 (most important) to 5 (least important of the five you have selected).

- _____ Is well prepared.
- _____ Uses a variety of approaches.
- _____ Tries to make sure each participant benefits from the experience.
- _____ Knows his or her own limitations.
- _____ Knows the material well.
- _____ Is well organized.
- _____ Recognizes and utilizes the expertise of participants.
- _____ Has a good sense of humor.
- _____ Presents a balance between theory and practical material.
- _____ Seeks feedback from participants.
- _____ Socializes with participants during breaks.

RANKING CHARACTERISTICS OF A GOOD GROUP LEADER WORK SHEET

Name _____

Instructions: Write your name at the top of this sheet. Below are listed some characteristics of a good group leader. Your task is to select the five most important characteristics of a good group leader and to rank these five from 1 (most important) to 5 (least important of the five you have selected).

- _____ Is energetic.
- _____ Is skilled at resolving conflict.
- _____ Is well organized.
- _____ Has experience as group leader.
- _____ Is respected by group members.
- _____ Is reliable.
- _____ Is charismatic.
- _____ Is intelligent.
- _____ Is creative.
- _____ Possesses a sense of humor.
- _____ Is effective in achieving results.

RANKING CHARACTERISTICS PHASE-I LEADER'S INSTRUCTION SHEET

Give the members of your subgroup the following instructions:

1. Work independently and rank order the top five characteristics of a good parent.
2. Be conscientious about your rankings, because our subgroup has to give our decision to the facilitator.

Look at the clock and record the time and tell your subgroup to begin the task.

When the members of your subgroup complete the task, ask each one to share his or her top five characteristics along with the assigned numbers.

When all the other members have finished reading their lists, share your top five and announce that you will use your list as the subgroup's decision. You may give the subgroup any of the reasons listed below or you may make up your own reason or give no reason at all.

Reasons for Using Your Rankings

1. "We are running out of time, so I'll just submit my list as our decision."
2. "I've been a parent for x years, so I'm sure my list is as accurate as any of yours."
3. "Next time we can use someone else's list, but this time we're going to use mine."

As soon as your group understands that your list will be used, note the time and compute how many minutes elapsed between the time your subgroup started the task and the time the decision was announced. Write the number of minutes on your copy of the work sheet and give it to the facilitator.

If members of your subgroup object to your decision, reply by saying, "Well, I'm the leader, and that is what I have decided" and stand up and take your work sheet to the facilitator. After you return to the subgroup, you may tell them that later there will be a general discussion on how the decision was made.

RANKING CHARACTERISTICS PHASE-II LEADER'S INSTRUCTION SHEET

Give the members of your subgroup the following instructions:

1. Work independently and rank order the top five characteristics of a good trainer.
2. Be conscientious about your rankings, because our subgroup has to give our decision to the facilitator.
3. One of our work sheets will be used as our subgroup's decision, but it will not necessarily be mine.

Look at the clock and record the time and tell your subgroup to begin the task.

When the members of your subgroup complete the task, ask each one to share his or her top five characteristics along with the assigned numbers.

When all the other members have finished reading their lists, share your list and announce that the work sheet of one of the members will be used as your subgroup's decision. Solicit nominations, and when one member's work sheet has received a majority of votes, record the time and compute the number of minutes that were required to make the decision.

Tell the person who holds the winning work sheet to write the number of minutes required for the decision in the upper-right corner of his or her work sheet and to give the work sheet to the facilitator.

RANKING CHARACTERISTICS PHASE-III LEADER'S INSTRUCTION SHEET

Give the members of your subgroup the following instructions:

1. Work independently and rank order the top five characteristics of a good group leader.
2. Be conscientious about your rankings, because our subgroup has to give our decision to the facilitator.

Look at the clock and record the time and tell your subgroup to begin the task.

When the members of your subgroup complete the task, ask each one to share his or her top five characteristics along with the assigned numbers.

When all the other members have finished reading their lists, share your list and announce that the subgroup must arrive at a consensus decision, that is, a decision that everyone is willing to accept. Give the subgroup the following suggestions about how to arrive at a consensus:

1. Discuss the characteristics and try to produce rank orders that everyone in the subgroup can accept.
2. Do not use averaging, majority rule, or trading votes to arrive at a decision.
3. Do not attempt to win as an individual.
4. View differences of opinion as a help rather than a hindrance in arriving at a consensus.
5. Listen and contribute, because both of these elements are important in making this type of decision.

When a consensus is reached, change your own work sheet to reflect the group's decision. Note the time, calculate how long your subgroup took to make the decision, write the number of minutes in the upper-right corner of your work sheet, and give your work sheet to the facilitator.

RANKING CHARACTERISTICS TALLY FORM

Phase I (Autocratic Process)

Characteristic	Number of Times Ranked				
	No. 1	No. 2	No. 3	No. 4	No. 5
Praise	_____	_____	_____	_____	_____
Good Example	_____	_____	_____	_____	_____
Time	_____	_____	_____	_____	_____
Listens	_____	_____	_____	_____	_____
Discipline	_____	_____	_____	_____	_____
Environment	_____	_____	_____	_____	_____
Affection	_____	_____	_____	_____	_____
Necessities	_____	_____	_____	_____	_____
Risks	_____	_____	_____	_____	_____
Rights	_____	_____	_____	_____	_____
TV	_____	_____	_____	_____	_____
Average time for arriving at decision: _____ minutes					

RANKING CHARACTERISTICS TALLY FORM

Phase II (Democratic Process)

Number of Times Ranked

Characteristic	No. 1	No. 2	No. 3	No. 4	No. 5
Prepared	_____	_____	_____	_____	_____
Variety	_____	_____	_____	_____	_____
Benefits	_____	_____	_____	_____	_____
Limitations	_____	_____	_____	_____	_____
Knowledge	_____	_____	_____	_____	_____
Organized	_____	_____	_____	_____	_____
Recognizes	_____	_____	_____	_____	_____
Humor	_____	_____	_____	_____	_____
Balance	_____	_____	_____	_____	_____
Feedback	_____	_____	_____	_____	_____
Socializes	_____	_____	_____	_____	_____

Average time for arriving at decision: _____ minutes

RANKING CHARACTERISTICS TALLY FORM

Phase III (Consensus Process)

Characteristic	Number of Times Ranked				
	No. 1	No. 2	No. 3	No. 4	No. 5
Energetic	_____	_____	_____	_____	_____
Resolver	_____	_____	_____	_____	_____
Organized	_____	_____	_____	_____	_____
Experienced	_____	_____	_____	_____	_____
Respected	_____	_____	_____	_____	_____
Reliable	_____	_____	_____	_____	_____
Charismatic	_____	_____	_____	_____	_____
Intelligent	_____	_____	_____	_____	_____
Creative	_____	_____	_____	_____	_____
Humor	_____	_____	_____	_____	_____
Effective	_____	_____	_____	_____	_____

Average time for arriving at decision: _____ minutes

■ PEOPLE ARE ELECTRIC: UNDERSTANDING HEURISTICS IN THE CREATIVE PROCESS

Goals

- To encourage the participants to think creatively.
- To help the participants to discover heuristics in their thinking patterns.
- To assist the participants in recognizing their own selective perception patterns.
- To improve team effectiveness by uncovering judgmental thinking and biases.

Group Size

Three to six subgroups of five members each.

Time Required

One hour and fifteen minutes to one and one-half hours.

Materials

- A copy of the People Are Electric Scenario Sheet for each participant.
- A pen or pencil and a clipboard or other portable writing surface for each participant.
- Several sheets of newsprint and a felt-tipped marker for each subgroup.
- A newsprint flip chart and a felt-tipped marker for the facilitator.
- Masking tape for posting newsprint.

Physical Setting

A room large enough for subgroups to work without disturbing one another, with plenty of wall space for posting newsprint. Movable chairs should be provided.

Process

1. The facilitator introduces the goals of the activity and presents an explanation in words similar to the following:
“Team effectiveness is sometimes limited by the judgmental thinking of team members. Especially in ambiguous or uncertain circumstances, people tend to use heuristics (rules of thumb) to make judgments or decisions. Examples of heuristics might be certain opening moves in chess or arriving at this year’s budget by adding

10 percent to last year's budget. Essentially heuristics are ways that people simplify thinking and decision making. Problems occur when these heuristics lead to wrong inferences and conclusions. Selective perception, or viewing problems from one's own perspective, is an example of a heuristic that can lead to problems. A person's perspectives and views of life are influenced by education, personality, and life experiences. However, in an uncertain situation, that person tends to make decisions based on his or her own perspective, which may not be apparent to others. This activity is intended to bring out thinking patterns and experiences that influence your decisions."

(Five minutes.)

2. The participants are instructed to form subgroups of five members each and to share information among themselves about their education and work experience. (Ten minutes.)
3. Each subgroup is given several sheets of newsprint, a felt-tipped marker, and masking tape for posting the newsprint. The facilitator distributes copies of the People Are Electric Scenario Sheet, pencils, and clipboards or other portable writing surfaces. Each participant is instructed to read the handout. (Five minutes.)
4. The facilitator reviews the instructions with the participants and directs the subgroups to begin the activity. (Twenty-five minutes.)
5. After the time has elapsed, the facilitator reconvenes the total group. Each subgroup in turn notes how the subgroup reached consensus, presents its answers to the scenario questions, and posts its newsprint sheets. (Ten to fifteen minutes.)
6. The facilitator leads a concluding discussion based on questions such as the following:
 - In what ways were your thinking patterns in this activity influenced by the information presented about heuristics? In what ways were your thinking patterns in this activity influenced by previous experiences?
 - How was your subgroup's thinking influenced by the education or work experiences of its members?
 - How was the consensus process affected by the subgroup's thinking process?
 - How did you feel about members of your subgroup whose ideas matched yours? What about those whose ideas were different from yours?
 - Have your ideas about the scenario changed as a result of group discussion? How?

- What have you learned about heuristics and selective perception? What situations can you think of in which the use of heuristics was an obstacle to creativity or effective decision making? How might you apply what you learned in personal or professional situations?

(Twenty minutes.)

Variations

- When a subgroup member introduces himself or herself, the other members may write down the information that is shared and record any expectations they have about how that person may respond during the activity.
- Participants may be asked to note selective perception patterns that they observe in themselves and to design action plans to modify these patterns if they choose.
- The facilitator may obtain information about the backgrounds of the participants in advance and use that information to structure the subgroups. Half the subgroups may be formed of participants with similar backgrounds and interests and half of those with different backgrounds and interests. The responses of the two types of groups may be compared as part of the concluding discussion.
- The activity could be conducted before information on heuristics is presented, with a similar but different activity following. The resulting creativity in the two situations then could be compared.

Submitted by Taggart Smith.

PEOPLE ARE ELECTRIC SCENARIO SHEET

Instructions: Begin by answering the questions on this page individually. Then discuss your answers with the other members of your subgroup. When you reach consensus on your subgroup's answers, write the answers on the sheets of newsprint. Take particular note of how your subgroup's thinking process affects consensus. You will have about twenty minutes for this activity.

What if human beings were electrically powered rather than having their energy supplied through food, water, and rest?

1. How would your personal life be affected?
2. How would your professional life be affected?
3. How would the following systems be changed:
 - Employment?
 - Education?
 - Family?
 - Leisure activities?
 - Government programs?
 - Global affairs?
 - Other?

■ SUPERVISORY BEHAVIOR/AIMS OF EDUCATION: CONSENSUS-SEEKING TASKS

Goals

- To explore the relationships between subjective involvement with issues and problem solving.
- To teach effective consensus-seeking behaviors in task groups.

Group Size

Ten or more participants. (In the example described here, two subgroups of five members each are established.)

Time Required

Approximately one and one-half hours.

Materials

- One copy of the Supervisory Behavior/Aims of Education Supervisory Behavior Work Sheet for each member of the inner-circle subgroup (see step 3).
- One copy of the Supervisory Behavior/Aims of Education Aims of Education Work Sheet for each member of the second inner-circle subgroup (see step 7).
- A pencil for each participant.

Physical Setting

Movable chairs that can be arranged in a group-on-group design.

Process

1. The facilitator divides the group into two subgroups and instructs each participant of one group to choose a “partner” from the other group.
2. Chairs for the subgroups are arranged in concentric circles, facing the center. The facilitator explains that the outer-circle group will act as personal process observers, who will give feedback to their partners in the inner-circle group after the first group ranking session. He or she adds that a second ranking session will be held in which the roles of the two groups will be reversed and that new partners will be chosen for that session.

3. A copy of the Supervisory Behavior/Aims of Education Supervisory Behavior Work Sheet is given to each participant in the inner circle. The facilitator explains that the inner circle is to work as a group in discussing and ranking the statements on their sheets. The group must not choose a formal discussion leader. It may arrive at its decisions by any method. As the group makes a decision, participants are to record the group ranking for each statement on the work sheet. They are to place the number 1 in front of the statement considered to be the most important characteristic of effective supervisory behavior and so on through number 8, the least important characteristic.
4. The facilitator reminds the personal process observers of their roles in observing their partners and tells the inner-circle group that it has twenty minutes to complete the ranking task. Members are cautioned that they may not complete their task in that amount of time.
5. At the end of twenty minutes, the facilitator directs personal process observers to give their partners feedback privately for ten minutes.
6. New partners are chosen. The process is repeated, with the outer circle becoming the inner circle and the inner group acting as personal process observers. During this phase, the Supervisory Behavior/Aims of Education Aims of Education Work Sheets are used by the inner circle.
7. When the process is finished, the facilitator may wish to give a brief lecturette on task and process behaviors.
8. The facilitator leads a discussion of the activity.

Variations

- Ranking forms can be developed both before the training session and during the event. For example, a list of top problems facing the group involved can be written. This list can be rank-ordered by a random sample of members of the group, and their responses can be tallied to develop an answer key. Also, within the training session, a list of items can be developed by participants for a ranking task. A survey of all participants can be conducted to develop a set of “right” answers.
- Groups can be encouraged to experiment with alternatives to formal voting procedures: They can seat themselves in the order that they ranked a given item as individuals; they can rate their agreement with each item; or they can distribute points among alternatives.
- The facilitator can experiment with various subgroup sizes. Participants can be assigned randomly to subgroups and given a time limit for consensus seeking. They can rate their satisfaction with the outcomes before the scoring. The subgroups’ average satisfaction ratings can be compared to other statistical outcomes.

- Additional sequential consensus exercises can be used, so that subgroups build on what was learned in each phase. New subgroups can be formed for each round. One task may have “right” answers, and the other may not. The subgroup may create its own instrument for subsequent phases.

The work sheets are adapted from *Handbook of Staff Development and Human Relations Training: Materials Developed for Use in Africa* by Donald Nylen, J. Robert Mitchell, and Anthony Stout.

SUPERVISORY BEHAVIOR/AIMS OF EDUCATION SUPERVISORY BEHAVIOR WORK SHEET

Instructions:

1. You *must* work as a group.
2. Do *not* choose a formal discussion leader.
3. Record the ranking as the group decides it.

A good supervisor:

- _____ freely praises excellent work.
- _____ communicates to subordinates the reasons for all important decisions.
- _____ encourages subordinates to criticize policies.
- _____ consults with subordinates before making decisions that affect their work.
- _____ has no favorites.
- _____ never reprimands a subordinate in front of others.
- _____ has frequent social contacts with subordinates outside of the job.
- _____ delegates authority to subordinates on all matters directly affecting their work.

SUPERVISORY BEHAVIOR/AIMS OF EDUCATION AIMS OF EDUCATION WORK SHEET

Instructions:

1. You *must* work as a group.
2. Do *not* choose a formal discussion leader.
3. Record the ranking as the group decides it.

_____ Society is held together by proper behavior. Education should teach people to be good, honest, upright human beings.

_____ People are happiest when they know they have done a skillful job. Therefore, they should be taught things that will help them do their work better.

_____ Knowledge should be valued for its own sake, because in knowledge there is wisdom. Education should teach those things that have been found to be true for all people for all times.

_____ The family is most important. Education should teach one to be a more able and responsible family member.

_____ In these times, when we must all work together to build our country, education must first teach us to be informed, reliable, and cooperative citizens.

_____ It is natural for people to want a reasonably comfortable way of life and a share in the good things of life. Education should primarily teach people how to attain money and success.

_____ If our nation is to go forward, our people must know and understand their own historical and cultural roots. Education should teach us about the past and how it can help or hinder us today.

_____ Freedom means choice. An uneducated person may believe all or nothing of what he or she hears or reads. Education should teach people how to make intelligent choices in all areas of their lives.

■ TOP PROBLEMS: A CONSENSUS-SEEKING TASK

Goals

- To compare the results of individual decision-making with the results of group decision-making.
- To teach effective consensus-seeking behaviors in task groups.

Group Size

Between five and twelve participants. Several subgroups may be directed simultaneously. (*Note:* Smaller subgroups tend to be more effective.)

Time Required

Approximately one and one-half hours.

Materials

- A copy of the Top Problems Individual Work Sheet for each participant.
- A pencil or pen for each participant.
- A copy of the Top Problems Group Work Sheet for each subgroup.

Physical Setting

Participants should be seated around a square or round table during the group-task phase. One dynamic that may emerge with a subgroup seated at a rectangular table is too much control accruing to persons seated at the ends.

Process

1. After explaining the goals of the activity, the facilitator distributes copies of the Top Problems Individual Work Sheet.
2. The participants are instructed to form subgroups. One copy of the Top Problems Group Work Sheet is given to each subgroup and a member is designated to record subgroup consensus on this sheet. Individuals are instructed not to change any answers.
3. After about thirty minutes, the facilitator explains the scoring procedure. He or she announces (or posts) the correct ranking, and participants score their own work sheets by computing the differences between each of their rankings and the correct rank number for the same item. For example, if a participant ranks an item as a “3”

and the correct ranking is “5,” the difference is 2. It does not matter which number is higher; the participant simply records the differences for each ranking and sums them. Low scores, then, are better than high ones. The correct ranking numbers follow:

- Crime and lack of respect for law.
- Inflation.
- Pollution of air and water.
- Racial tensions.
- Drug addiction.
- Overpopulation.
- Unemployment.
- Low productivity standards.
- Labor-management disputes.
- Inadequate housing.
- Government reform.
- Low educational standards.
- Disease and poor health conditions.

4. Each subgroup selects one member to compute the score for the consensus rank and one member to determine the average and range of individual scores. These statistics are posted for all subgroups in a chart such as the following:

Outcome	Subgroup 1	Subgroup 2	Subgroup 3
Range of Individual Scores			
Average of Individual Scores			
Score for Group Consensus			

5. Subgroups discuss their consensus-seeking process and outcomes. The focus should be on behaviors that help or hinder productivity.
6. The facilitator leads a discussion of the process and outcomes in the total group. Applications of the technique are solicited. This processing may include a discussion of leadership, compromise, decision-making strategies, psychological climate, and roles.

Variations

- Ranking forms can be developed readily both prior to the training session and during the event. For example, a list of top problems facing the organization can be written. This list can be rank-ordered by a random sample of members of the organization, and their responses can be tallied to develop an answer key. Also, within the training session, a list of items can be developed by participants to generate the content of a ranking task. A survey of all participants can be conducted to develop a set of “right” answers.
- Subgroups can be encouraged to experiment with alternatives to formal voting procedures: seating themselves in the order of the way they ranked a given item as individuals, rating their agreement with each item, distributing points among alternatives, etc.
- The group-on-group design can be used to heighten participation for consensus seeking. Two rounds can be used, with two different ranking tasks.
- The facilitator can experiment with various subgroup sizes. Persons can be randomly assigned to subgroups and given a time limit for the consensus-seeking phase. They can be asked to rate their satisfaction with the outcomes before the scoring step is begun. Average satisfaction ratings can be compared across subgroups and can be discussed in relation to other statistical outcomes.
- Similar experiments can be devised to vary time limits for the consensus-seeking phase. For example, one subgroup can be given twenty minutes, another thirty minutes, and one no limit. Satisfaction data and outcomes can be compared. A more complex design would be to study the effects of group size and time limit simultaneously as in the following model, which requires nine subgroups.

	Subgroup Size		
Time	Small	Medium	Large
Brief			
Long			
No Limit			

7. As an intergroup task, the same ranking form can be filled out by two separate subgroups, each of which tries to predict the ranking of the other subgroup. The two subgroups can be brought together to publish their actual rankings and sets of predictions. This activity gives each subgroup a “mirror image” of itself and can lead to more effective communication across subgroups.
8. Participants can be asked to rank-order one another (independently) in terms of the amount of influence each had on the consensus-seeking outcomes. Then each

participant derives a score for himself or herself based on the differences between the self-ranking of the items and the consensus ranking. The average influence ranks and the deviation scores are then correlated or compared.

9. Sequential consensus exercises can be used, so that subgroups build on the learnings of the process in the first phase. New subgroups can be formed for the second round. One task may have “right” answers, and the other may not. Other combinations are possible, such as having the group create its own instrument for the second phase.
10. The facilitator can save considerable time and confusion by handing out two copies of the work sheet form to each participant. The participant fills in both copies along with a subgroup identification number before the subgroup begins its discussion. Each participant hands one copy to the facilitator and keeps the other for the subgroup consensus discussion. While the subgroup is involved in developing a consensus ranking, the facilitator may find the range of individual scores and the average of individual scores. This works particularly well if there are several staff members to make the task go quickly. A chart with all the results may be shared with the total group.

Submitted by John J. Sherwood.

TOP PROBLEMS INDIVIDUAL WORK SHEET

A poll was taken among a random sampling of fifty leading persons who were included in the *International Yearbook and Statesmen's Who's Who*. (These publications list leading scientists, political leaders, jurists, business executives, publishers, and leaders in other fields.) Each leader was asked to choose the five most urgent problems facing the nation and then to rank them in order of importance.

Below is a list of the top thirteen problems facing the world according to that poll. Your task is to rank these problems in the same order of importance as the sample of fifty leading persons did. Write the number 1 by the problem that you think was ranked as most important problem, and so on through the number 13, which is your estimate of what was considered to be the item ranked as the least important of the problems.

- _____ Low productivity standards
- _____ Pollution of air and water
- _____ Overpopulation
- _____ Unemployment
- _____ Drug addiction
- _____ Disease and poor health conditions
- _____ Labor-management disputes
- _____ Crime and lack of respect for law
- _____ Racial tensions
- _____ Government reform
- _____ Inadequate housing
- _____ Inflation
- _____ Low educational standards

TOP PROBLEMS GROUP WORK SHEET

This is an activity in group decision-making. Your subgroup is to employ the method of *consensus* in reaching its decision. This means that the estimate of the ranking for each of the thirteen problems facing the world must be agreed on by each member before it becomes a part of the subgroup decision. Not every ranking will meet with everyone's complete approval. Try, as a subgroup, to make each ranking one with which all members can at least partially agree. Some guides to use in reaching consensus are as follows:

1. Avoid arguing for your own individual judgments. Approach the task on the basis of logic.
2. Avoid changing your mind only to reach agreement and to avoid conflict. Support solutions with which you are able to agree somewhat.
3. Avoid "conflict-reducing" techniques such as majority vote, averaging, or trading in reaching your decision.
4. View differences of opinion as a help rather than a hindrance in decision making.

- _____ Low productivity standards
- _____ Pollution of air and water
- _____ Overpopulation
- _____ Unemployment
- _____ Drug addiction
- _____ Disease and poor health conditions
- _____ Labor-management disputes
- _____ Crime and lack of respect for law
- _____ Racial tensions
- _____ Government reform
- _____ Inadequate housing
- _____ Inflation
- _____ Low educational standards

■ WHAT'S IMPORTANT ON MY JOB?: AN ORGANIZATION DEVELOPMENT ACTIVITY

Goals

- To examine perceptions about sources of motivation in work situations.
- To experience decision making by group consensus.

Group Size

Subgroups of four to six members each.

Time Required

One and one-half hours. Additional facilitator time is required to conduct a pre-experience survey and to tabulate the results.

Materials

- A copy of the What's Important on My Job? Decision Sheet for each participant and for each subgroup.
- A copy of the What's Important on My Job? Scoring Sheet for each participant and for each subgroup.
- A copy of the What's Important on My Job? Reaction Sheet for each participant.
- A pencil for each participant.
- A copy of the What's Important on My Job? Survey Sheet for the facilitator.
- Newsprint and a felt-tipped marker.

Physical Setting

Seating arranged in subgroups and a writing surface for each participant.

Process

1. Prior to the structured experience, the facilitator administers the What's Important on My Job? Survey to select employees of an organization. He or she sums the ranks for each item and rank orders the sums from most important to least important.
2. The facilitator begins the structured experience by dividing the participants into subgroups of four to six members each and introduces the activity, explaining its goals. Each participant is given a copy of the What's Important on My Job?

Decision Sheet and instructed to work individually during this phase of the experience. (Ten minutes.)

3. When members have completed the individual rankings, the facilitator distributes one copy of the What's Important on My Job? Decision Sheet to each subgroup and directs each subgroup to rank the fifteen factors by consensus. (A brief explanation of the decision-by-consensus process may be given if needed.) (Thirty minutes.)
4. The facilitator calls time and distributes copies of the What's Important on My Job? Scoring Sheet. He or she posts the (prepared in advance) correct ranking on newsprint. The facilitator reads the correct rankings, and individuals copy the rankings on their copies of the What's Important on My Job? Scoring Sheet. Members of each subgroup are then instructed to follow the instructions on the scoring sheet.
5. When scoring is completed, each subgroup reports on its best individual score, its subgroup-average error score, and its subgroup-consensus error score. These are posted on newsprint.
6. The facilitator gives a copy of the What's Important on My Job? Reaction Sheet to each participant and allows five minutes for participants to individually evaluate the experience.
7. The facilitator solicits participants' comments about their written reactions to the experience. He or she then leads a discussion of the experience, focusing on such concerns as:
 - What types of behaviors helped the subgroup in its consensus seeking?
 - What hindered the subgroup?
 - How did each subgroup actually make its decisions?
 - How did each individual's perception of the organization's ranking differ from how that person personally would have ranked the items?
 - What were the surprises about motivating factors?
 - What can be concluded about motivation in an organization? How does that match individuals' own experience?

Variations

- The members can rank their individual preferences before their predictions.
- If the total group is large, the survey can be taken within the training session.

Submitted by Donald T. Simpson.

WHAT'S IMPORTANT ON MY JOB? SURVEY SHEET

Please take a moment to help us gather some information for use in a supervisory-development program. Following are fifteen factors that most people consider to be important on their job. Please rank these fifteen factors in the order you consider them to be important to you, personally, on the job. Place a "1" by the item you consider most important, a "2" by the next most important, and so on to number "15"—the least important factor on the list. When you have completed the list, return it in the envelope provided.

This information will be summarized for use in the supervisory-development program. The activity is completely anonymous; please do not sign your name.

Thank you for your help.

Rank

- _____ 1. Company benefits
- _____ 2. Working conditions
- _____ 3. Recognition for doing a good job
- _____ 4. Having a good supervisor
- _____ 5. People I work with
- _____ 6. Adequate compensation
- _____ 7. The kind of work I do (the work itself)
- _____ 8. Having clear responsibilities
- _____ 9. Job security
- _____ 10. Opportunity for promotions
- _____ 11. A feeling of personal accomplishment
- _____ 12. Learning new tasks
- _____ 13. Freedom in doing my job
- _____ 14. A happy, friendly department
- _____ 15. Pride in doing a good job

Please indicate the title of your immediate work group: _____

WHAT'S IMPORTANT ON MY JOB? DECISION SHEET

A survey was conducted in which employees were asked to rank order the fifteen job factors listed below, in order of the importance of the factors to them, as individuals. Your task, first as individuals and then as a subgroup, is to rank order the fifteen job factors listed as you think the employees ranked them. In other words, your ranking should be a prediction of the sources of motivation of employees in general, not necessarily of your own. Place a "1" by the factor you believe they chose as most important, a "2" by the next most important factor, and so on, to "15"—the least important.

If you change your mind in coming to a subgroup decision, do not change your individual ranking. Your individual and subgroup rankings will be compared with rankings obtained from the actual employee survey.

	<i>My prediction of employee rankings</i>	<i>My subgroup's prediction</i>	<i>Survey results</i>
Company benefits	_____	_____	_____
Working conditions	_____	_____	_____
Recognition for doing a good job	_____	_____	_____
Having a good supervisor	_____	_____	_____
People I work with	_____	_____	_____
Adequate compensation	_____	_____	_____
The kind of work I do (the work itself)	_____	_____	_____
Having clear responsibilities	_____	_____	_____
Job security	_____	_____	_____
Opportunity for promotions	_____	_____	_____
A feeling of personal accomplishment	_____	_____	_____
Learning new tasks	_____	_____	_____
Freedom in doing my job	_____	_____	_____
A happy, friendly department	_____	_____	_____
Pride in doing a good job	_____	_____	_____

WHAT'S IMPORTANT ON MY JOB? SCORING SHEET

Although this scoring form may appear formidable, it really involves only simple arithmetic.

Instructions: In column (a), copy the ranking you assigned to each individual item. Then your subgroup calculates the average of the individuals' rankings for each item and records this (round off to one decimal place) in column (b). In column (c), copy the ranking assigned to each item by your subgroup through consensus. The facilitator will call out the "correct" ranking for each item, which you will copy into column (d). Take the difference between columns (a) and (d), make it a positive number (+), and record it in column (e) for each item. The differences between columns (b) and (d) are recorded (all +) in column (f), and the differences between columns (c) and (d) (all +) are noted in column (g). Add up columns (e), (f), and (g) to obtain your error score, your subgroup's average error score, and the subgroup-consensus error score.

	(a) Your Ranking	(b) Average of Individual Rankings	(c) Your Group- Consensus Ranking	(d) Correct Ranking	(e) (a) - (d) (all +)	(f) (b) - (d) (all +)	(g) (c) - (d) (all +)
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
Total							

Best Individual Score

Your
Error
Score

Group-
Average
Error
Score

Group-
Consensus
Error Score

WHAT'S IMPORTANT ON MY JOB? REACTION SHEET

Group Objectives

Not understood 1 2 3 4 5 6 7 8 9 Clearly understood

Degree of Mutual Trust

Low trust 1 2 3 4 5 6 7 8 9 High trust

Communications

Closed 1 2 3 4 5 6 7 8 9 Open

Level of Interaction

Impersonal 1 2 3 4 5 6 7 8 9 Personal

Degree of Mutual Support

Independent 1 2 3 4 5 6 7 8 9 Interdependent

Handling Conflict in the Group

Avoided 1 2 3 4 5 6 7 8 9 Confronted

Utilizing Member Resources

Competencies and expertise of members not used by group	<u>1</u> <u>2</u> <u>3</u> <u>4</u> <u>5</u> <u>6</u> <u>7</u> <u>8</u> <u>9</u>	Competencies and expertise of members used by group
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Diagnosis of Group Problems

Minimal diagnosis	<u>1</u> <u>2</u> <u>3</u> <u>4</u> <u>5</u> <u>6</u> <u>7</u> <u>8</u> <u>9</u>	Complete/maximum diagnosis
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Decisions

Partial participation 1 2 3 4 5 6 7 8 9 Full participation

■ **WILDERNESS SURVIVAL: A CONSENSUS-SEEKING TASK**

Goals

- To teach effective consensus-seeking behaviors in task groups.
- To explore the concept of synergy as it relates to outcomes of group decision making.

Group Size

Five to twelve participants. Several subgroups may be directed simultaneously in the same room. (Synergistic outcomes are more likely to be achieved by smaller subgroups, i.e., five to seven participants.)

Time Required

Approximately one and one-half hours.

Materials

- A copy of the Wilderness Survival Work Sheet for each participant.
- A copy of the Wilderness Survival Group Briefing Sheet for each participant.
- A copy of the Wilderness Survival Answer Sheet for each participant.
- A pencil for each participant.
- Newsprint and felt-tipped markers.

Physical Setting

A room large enough for the entire group to meet and separate rooms or areas in which subgroups can work without distracting one another.

Process

1. The facilitator briefly introduces the activity by explaining its purpose, outline, and origin.
2. The facilitator distributes copies of the Wilderness Survival Work Sheet. The participants complete the work sheet individually. (Approximately ten minutes.)
3. Subgroups are formed, and copies of the Wilderness Survival Group Briefing Sheet are distributed to all participants.

4. After participants have read the briefing sheet silently, the facilitator briefly discusses its contents.
5. Subgroups work separately on the consensus-seeking task. (Approximately thirty minutes.)
6. When all subgroups have completed the task, the entire group reassembles, with the members of each subgroup seated together.
7. The statistics for all subgroups are posted on a chart such as the following:

Outcome	Subgroup 1	Subgroup 2	Subgroup 3
Range of Individual Scores			
Average of Individual Scores			
Score for Group Consensus			

8. Subgroups discuss their consensus-seeking process and outcomes. The focus should be on behaviors that help or hinder productivity.
9. Each participant receives a copy of the Wilderness Survival Answer and Rationale Sheet. The facilitator announces (and posts) the “correct” answers, and each participant scores his or her own work sheet. A volunteer in each subgroup scores the subgroup’s solution and computes the average for the individual scores within the subgroup.
10. The facilitator leads a total-group discussion of the process and outcomes; he or she may include discussions of leadership, compromise, decision-making strategies, psychological climate, roles, and applications of the techniques learned.

Variations

- Ranking forms can be developed readily both prior to the training session and during the event. For example, a list of top problems facing the organization can be written. This list can be rank-ordered by a random sample of members of the organization, and their responses can be tallied to develop an answer key. Also, within the training session a list of items can be developed by participants to generate the content of a ranking task. A survey of all participants can be conducted to develop a set of “right” answers.
- Subgroups can be encouraged to experiment with alternatives to formal voting procedures: seating themselves in the order of the way they ranked a given item as individuals, rating their agreement with each item, distributing points among alternatives, etc.
- The group-on-group design can be used to heighten participation for consensus seeking. Two rounds can be used, with two different ranking tasks.

- The facilitator can experiment with various subgroup sizes. Persons can be randomly assigned to subgroups and given a time limit for the consensus-seeking phase. They can be asked to rate their satisfaction with the outcomes before the scoring step is begun. Average satisfaction ratings can be compared across subgroups and can be discussed in relation to other statistical outcomes.
- As an intergroup task, the same ranking form can be filled out by two subgroups. Then each subgroup can be instructed to predict the ranking of the other subgroup. The two can be brought together to publish their actual rankings and sets of predictions. This activity gives each subgroup a “mirror image” of itself and can lead to more effective communication.
- Participants can be asked to rank-order one another (independently) in terms of the amount of influence each had on the consensus-seeking outcomes. Then each participant derives a score for himself or herself based on the differences between self-ranking of the items and the consensus ranking. The average influence ranks and the deviation scores are then correlated.
- Sequential consensus exercises can be used, so that subgroups build on what was learned in the first phase. New subgroups can be formed for the second round. One task may have “right” answers, and the other may not. The subgroup may create its own instrument for the second phase.

Submitted by Donald T. Simpson.

WILDERNESS SURVIVAL WORK SHEET

Here are twelve questions concerning personal survival in a wilderness situation. Your first task is individually to select the best of the three alternatives given under each item. Try to imagine yourself in the situation depicted. Assume that you are alone and have a minimum of equipment, except where specified. The season is fall. The days are warm and dry, but the nights are cold.

After you have completed this task individually, you will again consider each question as a member of a subgroup. Your subgroup will have the task of deciding, by consensus, the best alternative for each question. Do not change your individual answers, even if you change your mind in the subgroup discussion. Both the individual and subgroup solutions will later be compared with the “correct” answers provided by a group of naturalists who conduct classes in woodland survival.

	Your Answer	Your Subgroup's Answer
1. You have strayed from your party in trackless timber. You have no special signaling equipment. The best way to attempt to contact your friends is to:	_____	_____
a. call “help” loudly but in a low register.		
b. yell or scream as loud as you can.		
c. whistle loudly and shrilly.		
2. You are in “snake country.” Your best action to avoid snakes is to:	_____	_____
a. make a lot of noise with your feet.		
b. walk softly and quietly.		
c. travel at night.		
3. You are hungry and lost in wild country. The best rule for determining which plants are safe to eat (those you do not recognize) is to:	_____	_____
a. try anything you see the birds eat.		
b. eat anything except plants with bright red berries.		
c. put a bit of the plant on your lower lip for five minutes; if it seems all right, try a little.		

	Your Answer	Your Subgroup's Answer
4. The day becomes dry and hot. You have a full canteen of water (about one liter) with you. You should:	_____	_____
a. ration it—about a cupful a day.		
b. not drink until you stop for the night, then drink what you think you need.		
c. drink as much as you think you need when you need it.		
5. Your water is gone; you become very thirsty. You finally come to a dried-up watercourse. Your best chance of finding water is to:	_____	_____
a. dig anywhere in the stream bed.		
b. dig up plant and tree roots near the bank.		
c. dig in the stream bed at the outside of a bend.		
6. You decide to walk out of the wild country by following a series of ravines where a water supply is available. Night is coming on. The best place to make camp is:	_____	_____
a. next to the water supply in the ravine.		
b. high on a ridge.		
c. midway up the slope.		
7. Your flashlight glows dimly as you are about to make your way back to your campsite after a brief foraging trip. Darkness comes quickly in the woods and the surroundings seem unfamiliar. You should:	_____	_____
a. head back at once, keeping the light on, hoping the light will glow enough for you to make out landmarks.		
b. put the batteries under your armpits to warm them, and then replace them in the flashlight.		
c. shine your light for a few seconds, try to get the scene in mind, move out in the darkness, and repeat the process.		

	Your Answer	Your Subgroup's Answer
8. An early snow confines you to your small tent. You doze with your small stove going. There is danger if the flame is:	_____	_____
a. yellow.		
b. blue.		
c. red.		
9. You must ford a river that has a strong current, large rocks, and some white water. After carefully selecting your crossing spot, you should:	_____	_____
a. leave your boots and pack on.		
b. take your boots and pack off.		
c. take off your pack, but leave your boots on.		
10. In waist-deep water with a strong current, when crossing the stream, you should face:	_____	_____
a. upstream.		
b. across the stream.		
c. downstream.		
11. You find yourself rimrocked; your only route is up. The way is mossy, slippery rock. You should try it:	_____	_____
a. barefoot.		
b. with boots on.		
c. in stocking feet.		
12. Unarmed and unsuspecting, you surprise a large bear prowling around your campsite. As the bear rears up about ten meters from you, you should:	_____	_____
a. run.		
b. climb the nearest tree.		
c. freeze, but be ready to back away slowly.		

WILDERNESS SURVIVAL GROUP BRIEFING SHEET

Decision by consensus is a method of problem solving and decision making in groups in which all the parties involved actively discuss the issues surrounding the decision. The subgroup thus pools the knowledge and experience of all its members. Any final decision must be supported by each member of the subgroup. The ideas and feelings of all the members are integrated into a subgroup decision, thus allowing several people to work together on a common problem, rather than producing a “we-they” stand-off.

As you might imagine, decision by consensus is usually difficult to attain and will consume more time than other methods of deciding an issue. As the energies of the subgroup become focused on the problem at hand (rather than on defending individual points of view), the quality of the decision tends to be enhanced. Research indicates, in fact, that this approach to problem solving and decision making results in a significantly higher-quality decision than by implementing other methods such as the use of majority power (voting), minority power (persuasion), and compromise.

In the decision-by-consensus process, each subgroup member is asked to:

1. Prepare his or her own position as well as possible prior to meeting with the subgroup (but to realize that the task is incomplete and that the missing pieces are to be supplied by the other members of the subgroup).
2. Recognize an obligation to express his or her own opinion and explain it fully, so that the rest of the subgroup has the benefit of all members' thinking.
3. Recognize an obligation to listen to the opinions and feelings of all other subgroup members and to be ready to modify one's own position on the basis of logic and understanding.
4. Avoid conflict-reducing techniques such as voting, compromising, or giving in to keep the peace and to realize that differences of opinion are helpful; in exploring differences, the best course of action will make itself apparent.

You have just completed an individual solution to Wilderness Survival: A Consensus-Seeking Task. Now your subgroup will decide on a subgroup solution to the same dilemmas. Remember, decision by consensus is difficult to attain, and not every decision may meet with everyone's unqualified approval. There should be, however, a general feeling of support from all members before a subgroup decision is made. Take the time you need to listen for understanding, consider all members' views, make your own view known, and be reasonable in arriving at a subgroup decision.

WILDERNESS SURVIVAL ANSWER SHEET

Here are the recommended courses of action for each of the situations on the Wilderness Survival Work Sheet. These answers come from the comprehensive course on woodland survival taught by the Interpretive Service, Monroe County (New York) Parks Department. These responses are considered to be the best rules of thumb for most situations; specific situations, however, might require other courses of action.

1. (a) *Call "Help" loudly but in a low register.* Low tones carry farther, especially in dense woodland. There is a much better chance of being heard if you call loudly but in a low key. "Help" is a good word to use, because it alerts your companions to your plight. Yelling or screaming would not only be less effective, but might be passed off as a bird call by your friends far away.
2. (a) *Make a lot of noise with your feet.* Snakes do not like people and will usually do everything they can to get out of your way. Unless you surprise or corner a snake, there is a good chance that you will not even see one, let alone come into contact with it. Some snakes do feed at night, and walking softly may bring you right on top of a snake.
3. (c) *Put a bit of the plant on your lower lip for five minutes; if it seems all right, try a little.* The best approach, of course, is to eat only those plants that you recognize as safe. But when you are in doubt and very hungry, you may use the lip test. If the plant is poisonous, you will get a very unpleasant sensation on your lip. Red berries alone do not tell you much about the plant's edibility (unless, of course, you recognize the plant by the berries), and birds just do not have the same digestive systems we do.
4. (c) *Drink as much as you think you need when you need it.* The danger here is dehydration, and once the process starts, your liter of water will not do much to reverse it. Saving or rationing will not help, especially if you are lying unconscious somewhere from sunstroke or dehydration. So use the water as you need it, and be aware of your need to find a water source as soon as possible.
5. (c) *Dig in the stream bed at the outside of a bend.* This is the part of the river or stream that flows the fastest, is less silted, deepest, and the last part to go dry.
6. (c) *Midway up the slope.* A sudden rain storm might turn the ravine into a raging torrent. This has happened to many campers and hikers before they had a chance to escape. The ridge line, on the other hand, increases your exposure to rain, wind, and lightning, should a storm break. The best location is on the slope.
7. (b) *Put the batteries under your armpits to warm them, and then replace them in the flashlight.* Flashlight batteries lose much of their power, and weak batteries run down faster, in the cold. Warming the batteries, especially if they are already weak, will restore them for a while. You would normally avoid night travel, of course, unless you were in open country where you could use the stars for

navigation. There are just too many obstacles (logs, branches, uneven ground, and so on) that might injure you—and a broken leg, injured eye, or twisted ankle would not help your plight right now. Once the sun sets, darkness falls quickly in wooded areas; it would usually be best to stay at your campsite.

8. (a) *Yellow*. A yellow flame indicates incomplete combustion and a strong possibility of carbon monoxide build-up. Each year many campers are killed by carbon monoxide poisoning as they sleep or doze in tents, cabins, or other enclosed spaces.
9. (a) *Leave your boots and pack on*. Errors in fording rivers are a major cause of fatal accidents. Sharp rocks or uneven footing demand that you keep your boots on. If your pack is fairly well balanced, wearing it will provide you the most stability in the swift current. A waterproof, zippered backpack will usually float, even when loaded with normal camping gear; if you step off into a hole or deep spot, the pack could become a lifesaver.
10. (b) *Across the stream*. Errors in facing the wrong way in fording a stream are the cause of many drownings. Facing upstream is the worst alternative; the current could push you back and your pack would provide the unbalance to pull you over. You have the best stability facing across the stream, keeping your eye on the exit point on the opposite bank.
11. (c) *In stocking feet*. Here you can pick your route to some degree, and you can feel where you are stepping. Normal hiking boots become slippery, and going barefooted offers your feet no protection at all.
12. (c) *Freeze, but be ready to back away slowly*. Sudden movement will probably startle the bear a lot more than your presence. If the bear is seeking some of your food, do not argue; let the bear forage and be gone. Otherwise, back very slowly toward some refuge (trees, rock outcrop, etc.).

■ **ADMISSIONS COMMITTEE: A CONSENSUS-SEEKING ACTIVITY**

Goals

- To compare decisions made by individuals with those made by groups.
- To teach effective consensus-seeking techniques.
- To teach the concept of synergy.

Group Size

Subgroups of five to seven.

Time Required

Approximately one and one-half to two hours.

Materials

- A copy of the Admissions Committee Fact Sheet for each participant.
- A copy of the set of Admissions Committee Applicant Profile Sheets I-VIII for each participant.
- A copy of the Admissions Committee Decision Work Sheet for each participant.
- A pencil for each participant.
- Newsprint, masking tape, and a felt-tipped marker for the facilitator.

Physical Setting

A room that will accommodate a table for each subgroup to work at without distraction.

Process

1. The facilitator distributes to each participant a copy of the Admissions Committee Fact Sheet, a set of Admissions Committee Applicant Profile Sheets I-VIII, an Admissions Committee Decision Work Sheet, and a pencil.
2. Participants are asked to read the fact sheet and each applicant profile and to rank order the eight applicants on the work sheet according to their potentials for good academic performance in a program of graduate business study. Participants are to enter their rankings in column 1. (Thirty minutes.)

3. The facilitator divides participants into subgroups of five to seven members, each subgroup constituting an admissions committee, and gives them the following instructions for reaching consensus:
 - Avoid arguing for your individual judgments. Approach the task on the basis of logic.
 - Avoid changing your mind simply to reach agreement and to avoid conflict, but support solutions with which you are able to agree somewhat.
 - Avoid conflict-reducing techniques such as majority vote, averaging, or trading in reaching your decision.
 - View differences of opinion as a help rather than a hindrance in decision making.The facilitator then asks the groups to derive a consensus ranking to be entered in column 2 on the Admissions Committee Decision Work Sheet. (Forty-five minutes.)
4. The facilitator posts on newsprint the actual performance ranking of each applicant at the completion of his or her graduate program:¹
 - Sam Dameon
 - Tina Miller
 - Richard Morris
 - Jamie Lorain
 - Anne Wa-Wen Chek
 - Larry Hutch
 - Edward Jakes
 - Frances Green

Participants are instructed to enter this ranking in column 3 on the Admissions Committee Decision Work Sheet.

5. Participants complete columns 4 and 5 on the work sheet. Column 4 provides an indication of the individual participant's "correctness," and column 5 provides an equivalent measure of each group's performance.
6. The facilitator posts total scores for each subgroup, including an average of individual scores and the committee score.
7. The facilitator leads a discussion of the activity, focusing on:
 - The consensus process within each subgroup: assets and difficulties, whether the rules were followed, and the dynamics behind the posted scores.

¹ Applicant profiles are based on actual case histories. Actual performance rankings were derived from the students' grade-point averages (GPA's) at the conclusion of their two-year programs of study.

- Ways in which performance could be improved in future consensus-seeking activities.
- Work situations to which the principles of achieving consensus could be applied.

Variations

- The facilitator could experiment with various subgroup sizes. Participants can be assigned randomly to subgroups and given a time limit for consensus seeking. They can be asked to rate their satisfaction with the outcomes before the scoring is begun. Subgroups' average satisfaction ratings can be compared and discussed in relation to other statistical outcomes.
- Time limits can be varied. For example, one subgroup can be given twenty minutes, another thirty minutes, and another unlimited time.
- Participants in each subgroup can be asked to rank order one another (independently) in terms of the amount of influence each had on the consensus-seeking outcome. Then each participant computes a score based on the differences between his or her ranking of the applicants and the consensus ranking. Influence rankings and deviation scores can then be compared, noting the effects of individual influence and "expertise" on the subgroup outcome.

Submitted by William J. Heisler.

ADMISSIONS COMMITTEE FACT SHEET

The Situation

You are a faculty member of Central Business School. In addition to your teaching responsibilities, you are a member of the Admissions Committee, which screens applicants for admission to the M.B.A. (Master of Business Administration) program. It is the committee's function to review each application for admission and decide whether to admit or reject the applicant and whether to extend an offer of financial aid. The committee meets every other Friday to review applications received during the interim two weeks and to rank the applicants on the basis of potential for success in Central's graduate program. It is your policy to review applicant profiles before each meeting and arrive at your own ranking of applicants.

Applicant profiles, prepared and distributed to each committee member, provide information concerning the applicant's undergraduate grade-point average (A=4.0; B=3.0; C=2.0, D=1.0), Graduate Management Admissions Test (GMAT) scores, records of extracurricular activity, work experience, recommendations, and general personal data.

Central Business School

Central Business School, located on the campus of a small university, has a relatively new M.B.A. program. Although its present reputation is regionally based, its long-range goal is to become a nationally prominent business school. Pressures for academic achievement appear to be moderate but can be expected to increase. Approximately 40 percent of all applicants are accepted, with 60 to 70 percent of those accepted ultimately enrolling at Central. Approximately 75 percent of the faculty members have doctoral degrees, most earned at major universities. The student-faculty ratio is about 12:1. Central's admissions policy reflects a desire to develop a quality student body with a diversity of interests and backgrounds. Maturity and motivation are judged to be as important as intellectual ability.

Specific Directions

Step 1. During the last two weeks, you have received eight applicant profiles. Tomorrow the Admissions Committee will consider the applications. As is your policy, you wish to make your own decisions before the meeting. You will have a total of thirty minutes to rank these applicants on the basis of their relative potential for success in Central's graduate program. Make these decisions now. Record your individual decisions in column 1 on the Admissions Committee Decision Work Sheet. When you finish, wait for the facilitator's instructions to proceed.

Step 2. It is now Friday. You are to meet with the other members of the Admissions Committee and decide by consensus on a ranking for each applicant. You will have forty-five minutes to reach consensus. Record the committee's decisions in column 2 on the Admissions Committee Decision Work Sheet.

ADMISSIONS COMMITTEE APPLICANT PROFILE SHEET I

Sam Dameon

Sam is a graduate of a small, private, church-affiliated institution; majored in psychology and received a B.S. degree two years ago.

Educational Record:	Cumulative C.P.A.:	2.3
	G.P.A. last two years:	2.5
	Rank in class:	340/551
	GMAT scores:	
	total	487 (55 percentile)
	verbal	32 (70 percentile)
	quantitative	24 (30 percentile)
	Best subject:	psychology
Major Activities:	Social fraternity (social chairman); R.O.T.C.; Interfraternity Council	
Work Experience:	First Lieutenant (U.S. Army); summer work as construction laborer, salesperson; part-time employment as laborer, research assistant, sandwich sales business operator	
Recommendations:	None provided	
Personal Data:	Age: 23 Marital status: married Citizen: yes Military service: yes Father's occupation: certified public accountant Mother's occupation: newspaper editor Hobbies: fishing, golf, painting	
Additional Information:	None	

ADMISSIONS COMMITTEE APPLICANT PROFILE SHEET II

Frances Green

Frances attended a small, church-affiliated school for two years before transferring to a large metropolitan university. Frances will receive a B.S. degree this year with a major in accounting.

Educational Record:	Cumulative G.P.A.: 2.2 G.P.A. last two years: 2.4 Rank in class: not available GMAT scores: total 486 (53 percentile) verbal 32 (70 percentile) quantitative 22 (23 percentile) Best subjects: banking, finance
Major Activities:	Social fraternity (president); Accounting Club (treasurer)
Work Experience:	Summer employment at textile plant and as junior auditor
Recommendations:	Two excellent; one average
Personal Data:	Age: 24 Marital status: single Citizen: yes Military service: no Father's occupation: accountant Mother's occupation: legal secretary Hobbies: flying, stamp collecting, soccer, reading
Additional Information:	None

ADMISSIONS COMMITTEE APPLICANT PROFILE SHEET III

Larry Hutch

Larry attended a medium-sized, church-affiliated school, majored in psychology and biology, and will receive a B.A. degree this year.

Educational Record:	Cumulative G.P.A.:	2.7
	G.P.A. last two years:	2.7
	Rank in class:	not available
	GMAT scores:	
	total	476 (51 percentile)
	verbal	23 (3 percentile)
	quantitative	34 (74 percentile)
	Best subject:	biology
Major Activities:	Student productions (producer); theater (publicity manager)	
Work Experience:	Summer work on a farm, in a hospital, and as a student laborer	
Recommendations:	One good; one average	
Personal Data:	Age: 22 Marital status: single Citizen: yes Military service: no Father's occupation: farmer Mother's occupation: roadside produce business Hobbies: skiing, canoeing	
Additional Information:	None	

ADMISSIONS COMMITTEE APPLICANT PROFILE SHEET IV

Edward Jakes

Ed, a graduate of a medium-sized school that serves predominantly minority cultures, majored in political science and received a B.A. degree two years ago.

Educational Record:	Cumulative G.P.A.: 3.1 G.P.A. last two years: 3.0 Rank in class: 31/437 GMAT scores: total 283 (4 percentile) verbal 14 (7 percentile) quantitative 13 (2 percentile) Best subject: politics
Major Activities:	Student Government Association (attorney general); various student committees; Political Science Club
Work Experience:	Full-time work as an insurance salesperson; part-time employment as a sales clerk, restaurant worker, and legislative assistant for the General Assembly
Recommendations:	Two good
Personal Data:	Age: 25 Marital status: single Citizen: yes Military service: no Father's occupation: deceased Mother's occupation: teacher of government Hobbies: reading
Additional Information:	None

ADMISSIONS COMMITTEE APPLICANT PROFILE SHEET V

Jamie Lorain

Jamie is a graduate of a very small, private, church-affiliated college, where she majored in economics. She will receive a B.A. degree this year.

Educational Record:	Cumulative G.P.A.:	2.7
	G.P.A. last two years:	3.2
	Rank in class:	not available
	GMAT scores:	
	total	410 (27 percentile)
	verbal	23 (30 percentile)
	quantitative	22 (23 percentile)
	Best subjects:	economics, business
Major Activities:	Student Government Association (chairperson of a committee); intramural sports	
Work Experience:	Summer employment for a construction firm and management intern for a large corporation	
Recommendations:	Two good	
Personal Data:	Age: 22	
	Marital status: single	
	Citizen: yes	
	Military service: no	
	Father's occupation: doctor	
	Mother's occupation: volunteer work, homemaker	
	Hobbies: sports	
Additional Information:	None	

ADMISSIONS COMMITTEE APPLICANT PROFILE SHEET VI

Tina Miller

Tina is a graduate of a large college, where she majored in electrical engineering and received a B.S.E.E. one year ago. She is presently in the Army.

Educational Record:	Cumulative G.P.A.: 2.3 G.P.A. last two years: 2.6 Rank in class: 1542/2117 GMAT scores: total 534 (72 percentile) verbal 31 (66 percentile) quantitative 33 (70 percentile) Best subjects: electronics, physics
Major Activities:	R.O.T.C. (adjutant); Student Government Association (senator); Honor Court (associate justice)
Work Experience:	Second Lieutenant (U.S. Army); store worker (summer)
Recommendations:	One excellent; one good
Personal Data:	Age: 22 Marital status: single Citizen: yes Military service: yes Father's occupation: research chemist Mother's occupation: program director for local TV station Hobbies: reading; ham radio
Additional Information:	Granted full fellowship by Army

ADMISSIONS COMMITTEE APPLICANT PROFILE SHEET VII

Richard Morris

Richard, a graduate of a very small school that serves predominantly minority cultures, majored in business administration and received a B.A. degree one year ago.

Educational Record:	Cumulative G.P.A.:	3.3
	G.P.A. last two years:	3.2
	Rank in class:	11/244
	GMAT scores:	
	total	398 (21 percentile)
	verbal	20 (17 percentile)
	quantitative	24 (28 percentile)
	Best subjects:	business, economics
Major Activities:	Student Government Association (director of financial affairs); class government (president); Business Club (president)	
Work Experience:	Accountant (full time); management intern (summer)	
Recommendations:	None provided	
Personal Data:	Age: 22 Marital status: married Citizen: yes Military service: no Father's occupation: auto mechanic Mother's occupation: nurse Hobbies: reading, listening to jazz	
Additional Information:	None	

ADMISSIONS COMMITTEE APPLICANT PROFILE SHEET VIII

Anne Wa-Wen Chek

Anne, a graduate of Cheng-Kung University, Republic of China, with a major in mathematics, received a B.A. degree two years ago.

Educational Record:	Cumulative G.P.A.:	B (approximate)
	G.P.A. last two years:	B + (approximate)
	Rank in class:	not available
	GMAT scores:	
	total	357 (14 percentile)
	verbal	12 (5 percentile)
	quantitative	27 (45 percentile)
	Best subject:	business
	Test of English as a Foreign Language (TOEFL):	578 (national TOEFL average about 500)
Major Activities:	Catholic Student Organization; swimming team; basketball team	
Work Experience:	Assistant to professors (part time)	
Recommendations:	Two good	
Personal Data:	Age: 22 Marital status: single Citizen: no Military service: no Father's occupation: school teacher Mother's occupation: homemaker Hobbies: reading, travel, camping, sports	
Additional Information:	None	

ADMISSIONS COMMITTEE DECISION WORK SHEET

Applicant	(1) Personal Ranking	(2) Committee Ranking	(3) Actual Performance Ranking	(4) Difference Between (1) and (3)	(5) Difference Between (2) and (3)
Sam Dameon					
Frances Green					
Larry Hutch					
Edward Jakes					
Jamie Lorain					
Tina Miller					
Richard Morris					
Anne Wa-Wen Chek					

	Individual Score	Committee Scores
*Total Scores		

*The total score for each column is the sum of the differences between the “correct” rank for each applicant and the rank attributed. (All differences are to be considered positive, regardless of their signs.) The lower the score, the better.

■ HUNG JURY: A DECISION-MAKING SIMULATION

Goal

To study decision-making processes.

Group Size

Subgroups of five to twelve participants each.

Time Required

Approximately two hours.

Materials

- Hung Jury Case Packets A and B for each participant: (A) State of California vs. Ralph B. Anderson, and (B) State of California vs. Leonard A. Walsh.
- Copies of Hung Jury Verdict Sheets (A and B) for each participant.
- Blank paper and a pencil for each participant.

Physical Setting

A large room in which subgroups can be seated around tables. These tables should be located in such a way that subgroups cannot overhear one another.

Process

1. The facilitator explains to the participants that they will engage in a decision-making experience that simulates a jury at work on criminal cases.
2. The participants are asked to form subgroups of five to twelve participants each and take seats at the tables around the room.
3. The facilitator distributes copies of the Hung Jury Case Packet A and a supply of pencils and paper to each subgroup, explaining that subgroup members will function as a jury that will have thirty minutes in which to reach a decision of guilty or not guilty. They may vote as many times as they wish, but they must come up with a final vote count at the end of the time limit. If they are unable to reach a unanimous decision, they must submit the last vote taken before the session ends. The facilitator adds that they may elect a foreman if they wish, but this must be done by majority vote.

4. The facilitator tells the juries when to begin and does not interrupt the session once it has begun except to announce the time in ten-minute intervals.
5. When the first session is finished, the facilitator indicates that juries are to discuss the processes that emerged during the decision making. Afterwards, participants are given copies of the Hung Jury Verdict Sheet A.
6. The facilitator distributes copies of the Hung Jury Case Packet B and begins the timing again.
7. When the second session is finished, subgroups discuss the decision-making processes that they experienced during the two cases. Any differences in the two experiences are isolated and discussed.
8. The facilitator leads the entire group in a discussion of the various processes that emerged in reaching the verdicts, such as consensus-seeking pressure by group leaders and the various roles that participants played.

Additional Note

These cases were presented to one of the district attorneys in Pomona, California, USA, in order to determine whether there was enough evidence to support the stated decisions. After reviewing both cases, the attorney decided the decisions would be supported in a United States court of law.

Variations

- If time is limited, only one case can be used. The session can also be split in the middle to form two one-hour periods.
- An intergroup competition can be established, with winning based on scoring the final votes as follows:
 - + 10 points for each correct vote;
 - 15 points for each incorrect vote;
 - 15 points for each abstention.Each group computes its net score.
- New groups can be formed for the second case.
- The activity can be used as a diagnostic activity for an ongoing group such as a committee or team.

Submitted by Stephen C. Iman, Blake D. Jones, and A. Steven Crown.

HUNG JURY CASE PACKET A
State of California vs. Ralph B. Anderson

Item 1. Instructions to the Jury

On May 24, 1989, Ralph B. Anderson was brought to court and tried for the murder of Stanley M. Walker. You are the jury involved in this case and it is your job, based on the information provided, to determine whether Mr. Anderson is guilty or not guilty. Submit your decision to the bailiff once a decision has been reached. If no unanimous decision can be reached, submit the results of the last vote taken before the end of the session.

Item 2. Coroner's Report: 5/14/89

Deceased:	Stanley Martin Walker 987 East Elm Ave. (Cyprus Apts.) Apartment 1B Colby, California, USA
Age:	42
Height:	5'11"
Weight:	175
Race:	Caucasian
Hair:	Black
Eyes:	Brown
Occupation:	C.P.A. of First United Bank, Colby Branch.
Cause of Death:	The deceased was shot by a .32 caliber pistol in the head and in the shoulder.
Time of Death:	Between 1:10-1:15 AM.
Location:	987 East Elm Ave., Apt. 1B, Colby, California.
Remarks:	Victim was dead on arrival at Imperial Valley Hospital. Autopsy revealed two slugs from a .32 caliber pistol, one lodged in the brain and one lodged below the left clavicle. No other internal or external injuries were noted.

/S/ William H. Stone, Coroner

Item 3. Summary of Testimony by:

Mr. John R. Adams
987 East Elm Ave. (Cyprus Apts.)
Apartment 1A
Colby, California, USA

Mr. Adams, 47, manager of the Canfield Department Store, testified that at approximately ten minutes after one in the morning on May 14, 1989, while he was getting into bed, he was disturbed by what he thought were firecrackers. He said that the neighborhood kids were constantly setting them off and that it was about time for him to put an end to it. He turned on the light, got out of bed, and went to the window. Looking out of the window, he saw some kids across the street in an alley. He went back to his closet, put on a robe, and went out the door. As he was going out the door of his ground floor apartment, he saw a man dressed in a blue business suit run from his neighbor's apartment down the hall and quickly turn the corner, heading in the direction of the parking lot. Although confused and startled by what had transpired, he noticed that his neighbor's door had been left wide open. On entering the room, he found the body of his neighbor, Stanley Walker, on the living room floor, apparently shot in the head. Mr. Adams then stated that he heard the screech of tires and rushed to the window just in time to see a red convertible tear down the street. When asked how he was sure that it was a red convertible, Mr. Adams explained that the street was adequately lit at the time. (This fact was confirmed by subsequent investigation.) Mr. Adams said he returned to the room and called the police, who arrived minutes later. Mr. Adams claimed that he had gotten a good look at the apparent murderer and could identify him if he saw him again.

Item 4. Summary of Testimony by:

Mr. Stuart J. Mills
1786 Park Ave.
Newberry, California, USA

Mr. Mills, 68, security guard of Cyprus Apts., stated that while he was patrolling the grounds at around 1:15 AM on May 14, he saw a man wearing a business suit run toward the parking lot, jump into a red convertible, and then drive away at an excessive speed. Mr. Mills said that he was unable to catch a glimpse of the man's face or see the license plate of the vehicle. Further questioning provided no additional information.

Item 5. Summary of Testimony by:

Officer Lee Mann
6734 College Street
Colby, California, USA

Officer Mann, 38, police officer of the Colby Police Dept., testified that at 1:20 AM on the morning of May 14, while writing out a speeding ticket for Mr. Ralph Anderson, an all-points bulletin (APB) came over the radio for any man wearing a business suit driving a red convertible in or near the 900 block of Colby. Because Mr. Anderson's car was a red convertible, and he was wearing a dark business suit and found driving in the vicinity, Officer Mann requested Mr. Anderson appear at the Police Station for some routine questioning. Mr. Anderson agreed to do so.

Item 6. Summary of Testimony by:

Mr. Ralph B. Anderson (Defendant)
1933 Hawthorne Lane
Imperial, California, USA

(After arriving at the police station and being informed of his rights, Mr. Anderson waived the right of the presence of an attorney and offered to answer any questions.)

Mr. Anderson, 37, City Councilman of Imperial, stated that he was guilty of speeding when the officer stopped him. When asked what he was doing in that neighborhood at that hour of night, he said that he had just arrived from a meeting in Redwood City at the Baxter Building, 234 Harrington Street, in which he and other town officials were discussing urban problems. (This information was confirmed by a call to some of the individuals who attended this meeting.) He said that the meeting broke up at about 11:30 PM and he decided to visit some friends who lived in San Bristo on his way home. Once he arrived at their residence at 2324 Orange Ave., he found them not at home and therefore decided to continue to his house to work on some important papers.

Mr. Anderson was then informed that a Mr. Walker had been murdered in his (Walker's) residence and that a man of Anderson's description was seen leaving the scene of the crime driving a red convertible. When Mr. Anderson was asked if he had ever had contact with or known the victim, he stated, "I don't know what the hell this is all about. I hope you realize who you're talking to and that I have some very influential friends in the Police Department. This is an outrage! I've never met this Mr. Walker nor have I been anywhere near his apartment. It's too bad that this guy was shot but you can't hang anything on me. All you've got is circumstantial evidence. There are a lot of red convertibles in this valley; the Department of Motor Vehicles can probably verify this. I refuse to be interrogated like this until I call my attorney."

Item 7. Police Report

Filed by: Sergeant Patterson and Officer Grant

Date: May 14, 1989

Time: 2:45 AM

RE: Based on the information supplied by Mr. John R. Adams, 987 East Elm Ave., Apt. 1A, Colby, California, the residence of Mr. Stanley M. Walker was then inspected for possible clues or evidence relating to the murder. After a thorough investigation the following items were found:

1. Two glasses of Scotch and soda were found on the coffee table in the living room. One glass had the fingerprints of the deceased, the second glass showed signs of having been wiped clean.
2. Three recently burned Camel cigarettes were found in an ashtray on the coffee table. (Mr. Walker was known not to have smoked.)
3. The alleged murder weapon, a .32 caliber pistol, was found behind a chair in the living room with no fingerprints.
4. The radio was found on when the police arrived.
5. An envelope was found in the top dresser drawer of the deceased's bedroom. Contents: \$2000.00 in small bills.
6. Deceased was shot in the head and shoulder and was found dead on arrival (DOA).
7. There was no sign of a struggle anywhere in the apartment.

Witnesses: Mr. John R. Adams—neighbor
987 East Elm Ave. (Cyprus Apts.)
Apt. 1A
Colby, California
Mr. Stuart J. Mills—security guard, Cyprus Apts.
1786 Park Ave.
Newberry, California

Item 8. Police Report

Filed by: Lieutenant Masterson
Date: May 14, 1989
Time: 2:30 AM

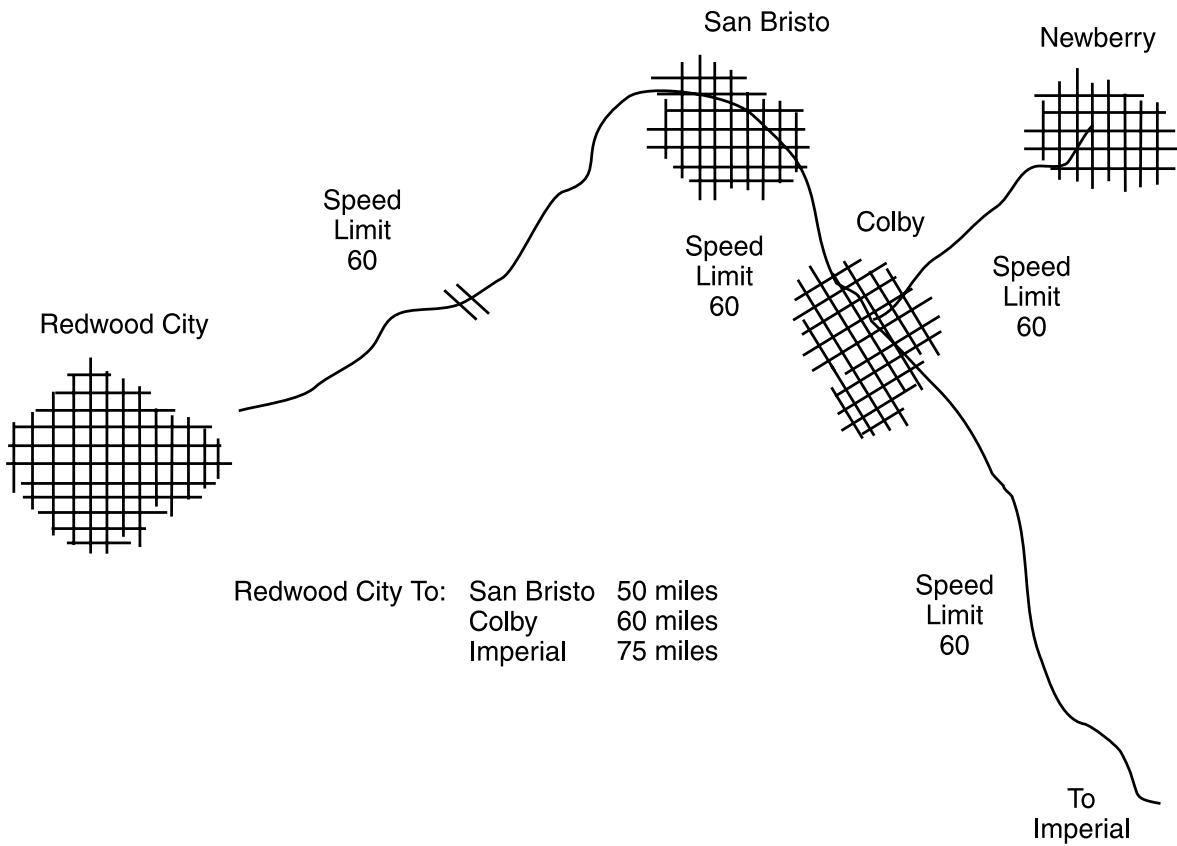
RE: Mr. John R. Adams and Mr. Stuart J. Mills were brought down to Police Headquarters for possible identification of the alleged murderer. In separate sessions, both witnesses identified Mr. Ralph Anderson from a line-up as the man they saw run from the crime. Mr. Adams was willing to sign an affidavit to this effect; however, Mr. Mills was not sure whether Mr. Anderson was the man he saw. Mills stated that Anderson looked similar to the man in question.

Other: Mr. Ralph Anderson smoked Camel cigarettes.

Item 9. Description of Defendant

Name: Anderson, Ralph Benjamin
Address: 1933 Hawthorne Lane, Imperial, California, USA
Sex: Male
Eyes: Brown
Hair: Brown
Race: Caucasian
Birthdate: 2/15/52
Height: 6'1"
Weight: 184
Marital Status: Single
Social Security: 665-34-8573
Occupation: City Councilman of Imperial

Item 10. Mileage Distances



HUNG JURY VERDICT SHEET A

Case: State of California vs. Ralph B. Anderson

Verdict: GUILTY

The defendant, Ralph Anderson, is found guilty for the following reasons:

1. The fact that he was wearing a blue business suit and was caught driving a red convertible in the vicinity of the crime shortly after the murder might be considered circumstantial; however, if he is the murderer this fact would not be circumstantial.
2. There was one eye-witness, Mr. Adams, who was willing to sign an affidavit stating that he saw Mr. Anderson coming out of his neighbor's apartment.
3. The evidence that makes Anderson truly guilty is that he knew too much about the crime in his testimony. The fact that he denied ever knowing Mr. Walker but knew that he lived in an apartment demonstrates some knowledge of the victim. Finally, Anderson was only informed that Mr. Walker had been murdered, but he knew that the victim had been shot, demonstrating that he knew how the victim had been murdered.
4. Blackmail is the motive indicated. Mr. Walker was an accountant at a bank and thus had access to the books. Mr. Anderson kept a separate account in Colby where he was unknown, and Walker had knowledge of Mr. Anderson's under-the-table dealings. Because Anderson was a politician, he might have done anything to keep his record clean.

HUNG JURY CASE PACKET B
State of California vs. Leonard A. Walsh

Item 1. Instructions to the Jury

On June 1, 1989, Leonard Walsh was brought to court and tried for the hit and run death of Susan Moore. You are the jury involved in this case and it is your job, based on the information provided, to determine whether Mr. Walsh is guilty or not guilty. Submit your decision to the bailiff once a decision has been reached. If no unanimous decision can be reached, submit the results of the last vote taken before the end of the session.

Item 2. Coroner's Report: 5/11/89

Deceased:	Susan D. Moore 1507 Oak Street San Bravura, California, USA
Age:	23
Height:	5'3"
Weight:	112
Race:	Caucasian
Hair:	Blonde
Eyes:	Blue
Cause:	The deceased was struck by an automobile.
Time:	Approximately 6:20-6:30 PM.
Location:	600 Block, 18th Avenue.
Remarks: victim's	Victim was dead on arrival at San Bravura Hospital. The body exhibited signs of multiple fractures and abrasions, and severe internal injuries.

/S/ Albert A. Simpson, Coroner

Item 3. Summary of Testimony by:

Mrs. Wilma Ferguson
1308 Edwards Street
San Bravura, California, USA

Mrs. Ferguson, 38, housewife, testified that as she came out of the grocery store at 725 18th Avenue shortly after 6:00 PM that evening, she heard a “screech of tires” and saw the victim, Susan Moore, collapse on impact with the automobile. At this point she dispatched a box boy to summon an ambulance and the police. Mrs. Ferguson then rushed to aid the victim. She remained with the victim until the ambulance arrived, at which point she was questioned by police. Mrs. Ferguson identified the vehicle as a white BMW. As a result of being approximately one-half block away, Mrs. Ferguson said she could not make out the license number of the vehicle. However, she testified that she was sure the vehicle had a white California license plate. When asked about the nature of the individual operating the alleged white BMW, Mrs. Ferguson stated positively that it was a man. She concluded her testimony by saying the vehicle drove off at a high rate of speed and turned south (right) on Harper Street.

Item 4. Summary of Testimony by:

Mr. Barney J. Schaffer
806 Royal Street
San Bravura, California, USA

Mr. Schaffer, co-owner and operator of Barney & Al’s Service Station at the corner of Royal and 18th, stated he completed the work on Mr. Walsh’s vehicle and turned it over to him a little after 6:00 PM on May 11, 1989. Mr. Schaffer testified that he could not recall seeing a dent in the front fender of Mr. Walsh’s vehicle. When allowed to see the impounded vehicle, Mr. Schaffer said he was absolutely sure the dent had not been there during the time he worked on the vehicle. Mr. Schaffer was certain that Mr. Walsh proceeded east on 18th Street.

Item 5. Summary of Testimony by:

Mr. John L. Richards
1888 Harper Street
San Bravura, California, USA

Mr. Richards, 51, pharmacist, testified that he was walking home from work (Kelley's Drug Store, 1765 King Street), along the 600 block of 18th, when the accident occurred. Although his vision was partially obscured by the parked cars, he was able to see the victim struck. When called on by the police to help identify the vehicle involved, he noted it was a white BMW. He testified that he told police that the license number of the vehicle was 4_ _IB. Mr. Richards said he could not positively ascertain what the other numbers or letters were. However, he thought that the license was made up of a combination of three numbers followed by three letters. Mr. Richards substantiated the testimony given by Mrs. Ferguson in that it was a man driving; he also added that he believed the man was Caucasian. When asked how he was able to take in all this information from the sidewalk, Mr. Richards revealed that he had dashed into the street on seeing the victim struck. The defense sought to discredit Mr. Richards' testimony by pointing out that he wears glasses. However, a test of Mr. Richards' vision revealed a 20/20 score with glasses. Mr. Richards concluded his testimony by agreeing with Mrs. Ferguson that the car turned south (right) on Harper Street.

Item 6. Summary of Testimony by:

Mr. Leonard A. Walsh (Defendant)
1185 13th Avenue
San Bravura, California, USA

The defendant, 33, Leonard A. Walsh, an architect, testified that he picked up his automobile, a 1984 white BMW, at Barney & Al's Service Station shortly after 6:00 PM, May 11, 1989. It was in for a lube job and oil change. He stated that he had ridden to and from work via public transportation. Mr. Walsh testified that he went directly home on receipt of the keys from Mr. Schaffer, except for a brief stop for dinner. When asked about the dent in the right fender of his car, Mr. Walsh explained that it was due to a bag of fertilizer falling off a shelf, which he had hit while parking in his garage that evening. (Two 50-pound bags of fertilizer were found in Walsh's garage. One bag was open and in the corner of the garage, and the other bag was still on a shelf.)

Item 7. Police Report

Filed by: Officers Roarke and Stevens

Date: May 11, 1989

Time: 11:30 PM

RE: Based on information supplied by two witnesses: Mrs. Wilma Ferguson, 1308 Edwards Street; and Mr. John Richards, 1888 Harper Street; and through the use of the computer crime lab, we were able to determine and locate the owner of the alleged hit-and-run vehicle, a Mr. Leonard Walsh, 1185 13th Avenue. The computer was programmed to isolate the number of registered BMWs in the State of California and provide a breakdown as to model, color, year, license number, and owner. Of the 18,567 BMWs in the state, 1271 are white, and only one of them bears the license combination

4_ _IB. This vehicle belongs to the above mentioned suspect. With this information we were dispatched to locate Mr. Walsh, whom we found in his driveway washing his white BMW. On inspection of the exterior of the vehicle, we noted a dent in the front hood and grill. We informed the suspect of the hit-and-run accident and notified him of his rights. He consequently requested the presence of an attorney before he would consider answering any questions.

Other: A Department of Motor Vehicles check on Mr. Walsh's driving record revealed that he had been issued three citations in the past six months. The first one, issued 11/17/88, was for speeding; the subject was cited for doing 40 mph in a 25-mph zone. The second violation occurred 1/22/89; the subject was cited for doing 65 mph in a 40-mph zone. The third citation was given to Mr. Walsh on 3/18/89; he was charged with driving under the influence of alcohol. The subject hired a lawyer and succeeded in getting the sentence reduced to negligent driving. The judge, however, saw fit to place Mr. Walsh on probation for a year. Any citation would result in the loss of all driving privileges.

Name: Walsh, Leonard Allan
Address: 1185 13th Avenue
San Bravura, California,
USA

Sex: Male
Eyes: Blue
Hair: Brown

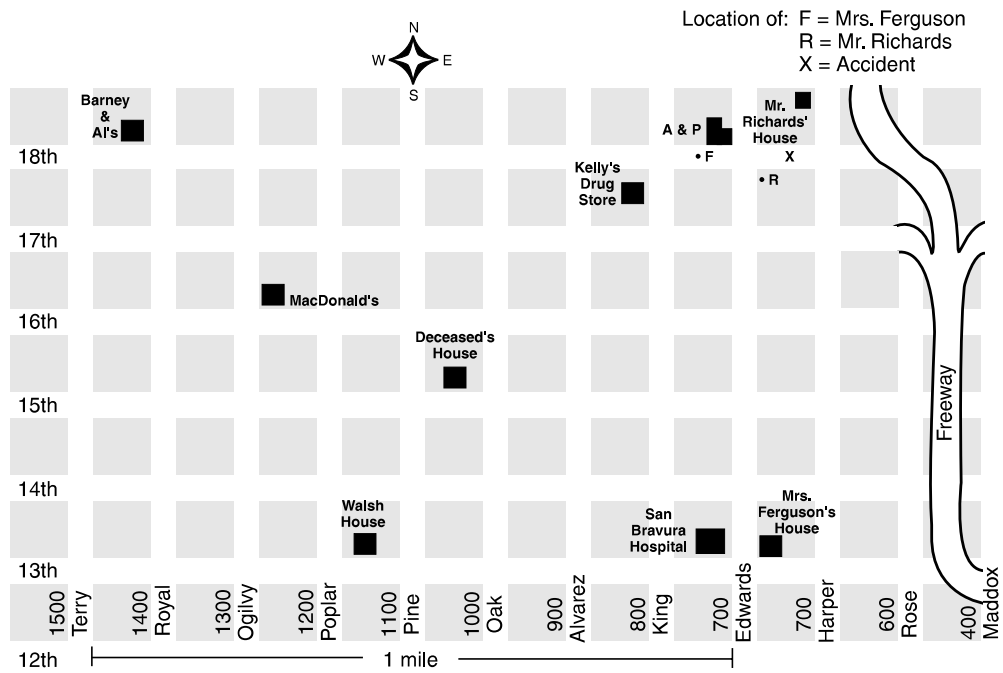
Race: Caucasian
Birthdate: 1/21/56
Height: 5'11"
Weight: 173
Marital Status: Single
Social Security: 534-78-6995
Occupation: Architect

Item 8. Department of Motor Vehicles Report

(on impoundment) May 11, 1989

Type:	BMW
Year:	1984
Model:	2002, manual transmission
Color:	White
License Number:	416QIB
Registered Owner:	Leonard A. Walsh 1185 13th Avenue San Bravura, California
Condition of Vehicle:	
Mileage:	64,874
Body:	dent in right front hood and fender, paint flaking off on doors, dent in left rear fender.
Tires:	worn, bald
Brakes:	worn, in need of repair.
Engine:	good condition, rebuilt at 58,506
Transmission:	good condition
Lubrication:	last oil change, 64,873
Exhaust System:	poor condition, anti-smog device nonfunctional
Other:	Front windshield cracked on driver's side (approximately six inches), two hubcaps missing

Item 9. Map of San Bravura



HUNG JURY VERDICT SHEET B

Case: City of San Bravura vs. Leonard A. Walsh

Verdict: NOT GUILTY

The defendant, Leonard A. Walsh, is found not guilty for the following reasons:

1. The fact that his odometer registered less mileage than was necessary in order to have been involved in the accident and return via the shortest route to his house constitutes reasonable doubt.
2. The fact that Mr. Walsh's testimony supported the objectivity of his odometer reading further substantiates the claim for reasonable doubt.
3. The evidence of the license plate number was limited to include only vehicles in the State of California; however, several other states also have the same color format.
4. Finally, the evidence of the positive recognition of the numbers and letters also reinforces the concept of reasonable doubt, for if one looks at the numbers and letters recognized by Mr. Richards, there is a definite possibility that at a quick glance the supposed letters could have been numbers, thus making the license plate from another state.

■ PYRAMIDS: A CONSENSUS EXPERIENCE

Goals

- To study the consensus process within an organizational hierarchy.
- To allow participants to define organizational concepts individually and through an organizational process of small-group pyramiding.
- To explore the dynamics of influence and power within groups and organizations.

Group Size

Twenty or more participants. Ideally, the group size should be divisible by four.

Time Required

Approximately two hours.

Materials

- Two sets of the following for each participant: paper cut into $2\frac{3}{4}$ " x $8\frac{1}{2}$ " strips (four strips from an $8\frac{1}{2}$ " x 11" sheet).
- A pencil and paper for each participant.
- Masking tape.

Physical Setting

A large room with chairs and writing surfaces and adequate wall space to display a pyramid-shaped organizational chart.

Process

Note: The facilitator may wish to study the effect of the pyramiding of groups before the experience. There are several ways to pyramid, and he or she should establish the mixes and types to be used. It is strongly suggested that the plan be diagramed.

1. The facilitator gives a brief lecturette on organizational structure and the interrelations between various levels. He or she tells participants that the pyramidal structure will be explored through definitions of a concept that is relevant to the group, e.g., management, power, cohesion, etc.
2. Participants are given paper and pencils and are instructed to write their own definitions of the concept chosen. They are then given paper strips and told to copy their definitions on the top strip. (Five minutes.)

3. Each participant gives his or her definition to the facilitator, who fastens the strips to the wall to represent the lowest level of the pyramidal organizational chart.
4. The facilitator then instructs the participants to form pairs and, by consensus, to derive a definition of the concept from their original individual definitions. (Five minutes.)
5. The consensus definition for each pair is written on the second strip of paper and then handed to the facilitator, who posts the strips on the wall as the second level of the organizational structure. (If there are twelve individual definitions on the lower level, there will be six in the second level of the organizational chart.)
6. The participants then form subgroups of four and reach a consensus on a definition of the concept derived from their two previous consensus definitions. They proceed as before, writing their definitions on strips of paper. (Ten minutes.)
7. The process continues by increasing the size of the subgroups until the entire group reaches a consensus on a final definition. As the subgroups enlarge, there are several ways to approach the problem. The members can appoint reporters for the larger subgroups or they can try to reach a consensus as individuals. Time and the amount of data desired should be the factors considered. The lower the structuring, the more data will be collected. Once the subgroups have reached a consensus, they hand the facilitator their decisions to be placed in the highest position on the chart.
8. The facilitator elicits the reactions of participants and leads a discussion of the experience. The discussion may include the issues that arose as the size of the subgroups increased and new opinions had to be worked into the consensus definition. Observations made during the consensus negotiations are analyzed. The concept of authority and influence can be discussed, as well as the problem of communication within organizations.
9. Finally, a working definition of the concept may be settled on, depending on the needs of the group.

Variations

- Participants can regroup with their initial partner to process the experience.
- Observers can be appointed to study the consensus process and to report on their observations.
- After step 7, the facilitator can discard the participants' final definition and put his or her own definition at the top of the chart.

Submitted by Richard J. Carpenter, Jr.

■ **LISTS: A COLLECTION OF CONSENSUS ACTIVITIES**

Goals

- To allow participants to practice giving and receiving feedback
- To practice effective consensus-seeking behavior in groups.
- To demonstrate that relevant performance data from interdependent tasks is widely rather than narrowly shared by group members.

Group Size

Three to five subgroups of five or six members each.

Time Required

Two and one-half to three hours.

Materials

- A copy of one of the following work sheets for each participant:
 - Lists Most Populous Countries Individual Work Sheet.
 - Lists Oceans and Seas of the World Individual Work Sheet.
 - Lists 1992 Summer Olympics Individual Work Sheet.
 - (Other lists that can be rank ordered can be used.)
- A copy of one of the following work sheets for each subgroup:
 - Lists Most Populous Countries Group Work Sheet.
 - Lists Oceans and Seas of the World Group Work Sheet.
 - Lists 1992 Summer Olympics Group Work Sheet.
- A copy of the Lists Score Sheet for each participant.
- A pencil for each participant.
- Newsprint and a felt-tipped marker.

Physical Setting

A room that is large enough for each subgroup to work separately without being overheard by the other subgroups, or a separate room for each subgroup, and a writing surface for each participant.

Process

1. The facilitator introduces the activity as one that will look at individual and group decision making and feedback.
2. The facilitator gives each participant a copy of the same one of the three individual work sheets and a pencil and tells them to individually rank order the items according to the directions provided. (Ten minutes.)
3. Subgroups of five to six people each are formed. The facilitator distributes to each subgroup a copy of the group work sheet that corresponds to the individual work sheet just completed. The subgroups are given the task of deriving a ranking by consensus for the group work sheet. The facilitator stresses that there must be substantial agreement among subgroup members on the rank assigned to each item: No averaging or “majority-rule” voting is allowed.
4. The facilitator directs each subgroup to select a manager, who may exercise whatever authority is necessary and will participate in the subgroup process. The facilitator then directs the subgroups to begin the ranking task. (Thirty minutes.)
5. The facilitator calls time, distributes a Lists Score Sheet to each member, and directs participants in scoring according to the directions given on the sheet. When this task is completed, the average individual scores for each item and the subgroup scores for each item are posted on newsprint.
6. The total group is reassembled, and the facilitator leads a discussion of the average of individual scores compared with the range of subgroup scores. They then discuss group resources compared with individual resources and the extent to which these resources were used in the subgroups.
7. Participants break into their subgroups again, and each subgroup manager critiques his or her subgroup’s performance and each individual member’s performance.
8. Each member of the subgroup is then told to critique the performance of the subgroup, including the manager and the effect that the manager had on the group-consensus process. Group members take turns doing this. (One-half hour.)
9. The large group reassembles, and the facilitator leads a discussion of the experience. Members are encouraged to share their feelings and reactions to giving and receiving feedback, what they learned about themselves in the feedback process, what they learned about the group-consensus process, and what learnings they can apply to other group experiences.

Variations

- Money can be used as a reward for performance. In this case, each manager would disburse the “reward” money to subgroup members as part of his or her evaluation of performance. Each member could then disagree with the manager’s evaluation, but decisions about money disbursement would stand.

- Step 8 can be omitted.
- There can be no group manager; instead, members critique one another's performances.
- Other rank-ordered lists can be used.

Lists Answer Keys

The source for the following answer keys is *Information Please Almanac, 1993 Edition*, Boston: Houghton Mifflin.

Most Populous Countries

- | | |
|--|---------------------------------|
| 1. People's Republic of China
(1,165,800,000) | 14. Philippines (63,700,000) |
| 2. India (882,600,000) | 15. Iran (59,700,000) |
| 3. United States (255,600,000) | 16. Turkey (59,200,000) |
| 4. Indonesia (184,500,000) | 17. Italy (58,000,000) |
| 5. Brazil (150,800,000) | 18. United Kingdom (57,800,000) |
| 6. Russia (149,300,000) | 19. France (56,900,000) |
| 7. Japan (124,400,000) | 20. Thailand (56,300,000) |
| 8. Pakistan (121,700,000) | 21. Egypt (55,700,000) |
| 9. Bangladesh (111,400,000) | 22. Ethiopia (54,300,000) |
| 10. Nigeria (90,100,000) | 23. Ukraine (52,100,000) |
| 11. Mexico (87,700,000) | 24. South Korea (44,300,000) |
| 12. Germany (80,600,000) | 25. Myanmar (42,500,000) |
| 13. Viet Nam (69,200,000) | |

Oceans and Seas of the World (in square miles)

- | | |
|-------------------------------|--------------------------|
| Pacific Ocean (64,000,000) | Okhotsk Sea (613,800) |
| Atlantic Ocean (31,815,000) | East China Sea (482,300) |
| Indian Ocean (25,300,000) | Hudson Bay (475,800) |
| Arctic Ocean (5,440,200) | Japan Sea (389,100) |
| Mediterranean Sea (1,145,100) | Andaman Sea (308,100) |
| Caribbean Sea (1,049,500) | North Sea (222,100) |
| South China Sea (895,400) | Red Sea (169,100) |
| Bering Sea (884,900) | Baltic Sea (163,000) |
| Gulf of Mexico (615,000) | |

1992 Summer Olympics

- | | |
|-----------------------|-------------------------|
| 1. Germany (26) | 10. Japan (7) |
| 2. Unified Team (23) | 11. South Korea (4) |
| 3. Austria (21) | 12. The Netherlands (4) |
| 4. Norway (20) | 13. Sweden (4) |
| 5. Italy (14) | 14. Switzerland (3) |
| 6. United States (11) | 15. China (3) |
| 7. France (9) | 16. Czechoslovakia (3) |
| 8. Finland (7) | 17. Luxembourg (2) |
| 9. Canada (7) | 18. New Zealand (1) |

Submitted by Barry D. Leskin.

LISTS MOST POPULOUS COUNTRIES INDIVIDUAL WORK SHEET

Instructions: Following is a list of twenty-five countries. Your task is to rank them in order of their population in 1992, from “1” (most populous) to “25” (least populous).

_____ Bangladesh
_____ Brazil
_____ Egypt
_____ Ethiopia
_____ France
_____ Germany
_____ India
_____ Indonesia
_____ Iran
_____ Italy
_____ Japan
_____ Mexico
_____ Myanmar

_____ Nigeria
_____ Pakistan
_____ People’s Republic of China
_____ Philippines
_____ Russia
_____ South Korea
_____ Thailand
_____ Turkey
_____ Ukraine
_____ United Kingdom
_____ United States
_____ Viet Nam

LISTS MOST POPULOUS COUNTRIES GROUP WORK SHEET

Instructions: Your subgroup is to employ the group-consensus method in reaching its decision. This means that rankings must be agreed on, at least partially, by each subgroup member. Here are some guidelines to use in reaching consensus:

1. Approach the task on the basis of logic. Avoid arguing for your own individual judgments.
2. Avoid changing your mind only to reach agreement and avoid conflict. Support only solutions with which you can agree at least somewhat.
3. Avoid techniques such as majority voting, averaging, or trading in order to reduce conflict and reach a decision.
4. View differences of opinion as an asset, rather than a hindrance, in group decision making.

Rank the countries on the following list in order of their population in 1992, from “1” (most populous) to “25” (least populous).

_____ Bangladesh	_____ Nigeria
_____ Brazil	_____ Pakistan
_____ Egypt	_____ People’s Republic of China
_____ Ethiopia	_____ Philippines
_____ France	_____ Russia
_____ Germany	_____ South Korea
_____ India	_____ Thailand
_____ Indonesia	_____ Turkey
_____ Iran	_____ Ukraine
_____ Italy	_____ United Kingdom
_____ Japan	_____ United States
_____ Mexico	_____ Viet Nam
_____ Myanmar	

LISTS OCEANS AND SEAS OF THE WORLD INDIVIDUAL WORK SHEET

Instructions: Following is a list of seventeen oceans and seas. Your task is to rank them in order of size (square miles), from “1” (largest) to “17” (smallest).

- | | |
|----------------------|-------------------------|
| _____ Andaman Sea | _____ Indian Ocean |
| _____ Arctic Ocean | _____ Japan Sea |
| _____ Atlantic Ocean | _____ Mediterranean Sea |
| _____ Baltic Sea | _____ North Sea |
| _____ Bering Sea | _____ Okhotsk Sea |
| _____ Caribbean Sea | _____ Pacific Ocean |
| _____ East China Sea | _____ Red Sea |
| _____ Gulf of Mexico | _____ South China Sea |
| _____ Hudson Bay | |

LISTS OCEANS AND SEAS OF THE WORLD GROUP WORK SHEET

Instructions: Your subgroup is to employ the group-consensus method in reaching its decision. This means that rankings must be agreed on, at least partially, by each subgroup member. Here are some guidelines to use in reaching consensus:

1. Approach the task on the basis of logic. Avoid arguing for your own individual judgments.
2. Avoid changing your mind only to reach agreement and avoid conflict. Support only solutions with which you can agree at least somewhat.
3. Avoid techniques such as majority voting, averaging, or trading in order to reduce conflict and reach a decision.
4. View differences of opinion as an asset, rather than a hindrance, in group decision making.

Rank the oceans and seas on the following list in order of size (square miles), from “1” (largest) to “17” (smallest).

_____ Andaman Sea	_____ Indian Ocean
_____ Arctic Ocean	_____ Japan Sea
_____ Atlantic Ocean	_____ Mediterranean Sea
_____ Baltic Sea	_____ North Sea
_____ Bering Sea	_____ Okhotsk Sea
_____ Caribbean Sea	_____ Pacific Ocean
_____ East China Sea	_____ Red Sea
_____ Gulf of Mexico	_____ South China Sea
_____ Hudson Bay	

LISTS 1992 SUMMER OLYMPICS INDIVIDUAL WORK SHEET

Instructions: Following is a list of twelve countries that won medals at the 1992 Summer Olympics. Your task is to rank them in order of number of medals won, from “1” (most) to “12” (least).

- _____ Austria
- _____ Canada
- _____ Czechoslovakia
- _____ France
- _____ Germany
- _____ Italy
- _____ Luxembourg
- _____ New Zealand
- _____ Norway
- _____ South Korea
- _____ Unified Team
- _____ United States

LISTS 1992 SUMMER OLYMPICS GROUP WORK SHEET

Instructions: Your subgroup is to employ the group-consensus method in reaching its decision. This means that rankings must be agreed on, at least partially, by each subgroup member. Here are some guidelines to use in reaching consensus:

1. Approach the task on the basis of logic. Avoid arguing for your own individual judgments.
2. Avoid changing your mind only to reach agreement and avoid conflict. Support only solutions with which you can agree at least somewhat.
3. Avoid techniques such as majority voting, averaging, or trading in order to reduce conflict and reach a decision.
4. View differences of opinion as an asset, rather than a hindrance, in group decision making.

Rank the countries on the following list in order of the number of medals won at the 1992 Summer Olympics, from “1” (most) to “12” (least).

_____ Austria
_____ Canada
_____ Czechoslovakia
_____ France
_____ Germany
_____ Italy
_____ Luxembourg
_____ New Zealand
_____ Norway
_____ South Korea
_____ Unified Team
_____ United States

LISTS SCORE SHEET

This scoring form can be used with any consensus-seeking task that involves rank ordering a list of items that has a “correct” ranking according to some external criterion. It may appear formidable, but it is really simple arithmetic.

Instructions: In column (a) copy the ranks you assigned to the individual items. Then your subgroup calculates the average of the individuals’ ranks for each item and records this (one decimal place) in column (b). In (c), copy the ranks assigned by your subgroup through consensus. The facilitator will call out the “correct” rankings, which you will copy into column (d). Take the difference between columns (a) and (d), make it a positive numeral (+) and record it in column (e) for each item. The differences between columns (b) and (d) are recorded (all +) in column (f), and the differences between columns (c) and (d) (all +) are noted in column (g). Add up columns (e), (f), and (g) to obtain your error score, your subgroup’s average error score, and the error score for subgroup consensus.

Item	(a) Your Ranking	(b) Average of Individual Ranks	(c) Your Subgroup’s Ranking	(d) Correct Ranking	(e) a-d (all +)	(f) b-d (all +)	(g) c-d (all +)
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							

Item	(a) Your Ranking	(b) Average of Individual Ranks	(c) Your Subgroup's Ranking	(d) Correct Ranking	(e) a-d (all +)	(f) b-d (all +)	(g) c-d (all +)
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							

Total _____ _____ _____

Your Subgroup Consensus

Error Average Error

Score Error Score

Score Score

Best Individual Score _____

■ THE LOTTERY: EXPLORING THE IMPACT OF VALUES ON DECISION MAKING

Goals

- To allow the participants to experience the dynamics involved in consensus decision making.
- To help the participants to recognize the role of values in decision making.

Group Size

Up to five subgroups of five to seven participants each.

Time Required

One hour and fifteen minutes to one hour and thirty-five minutes.

Materials

- One copy of The Lottery Consensus Sheet for each participant.
- A pencil for each participant.
- One copy of The Lottery Observer Sheet for each subgroup.
- A newsprint flip chart and a felt-tipped marker.
- Masking tape for posting newsprint.

Physical Setting

Any room in which subgroups can work without disturbing one another. Movable chairs should be provided.

Process

1. The facilitator introduces the activity along with its goals and assembles the participants into subgroups of five to seven members each. (Five minutes.)
2. The facilitator distributes pencils and copies of The Lottery Consensus Sheet, asks the participants to read the sheet, and answers any questions about the task. Then each subgroup is instructed to choose an observer, who receives a copy of The

Lottery Observer Sheet. The subgroups are instructed that they will have thirty minutes to complete the task. (Ten minutes.)

3. After thirty minutes, the facilitator calls time and reconvenes the total group. (Thirty-five minutes.)
4. Each subgroup in turn is instructed to share its rankings, disclose its rationales, and articulate its values and beliefs as clearly as possible. The facilitator records these rankings on newsprint. (Five to fifteen minutes.)
5. The observer for each subgroup shares his or her observations and reactions with the total group. (Five to fifteen minutes.)
6. The facilitator leads a concluding discussion based on the following questions:
 - How did you feel about working on this task?
 - What types of behaviors helped the subgroup in its consensus seeking? What behaviors hindered?
 - How did individual values affect the consensus-seeking activity?
 - What effects of group values do you see in the rankings?
 - What have you learned about how values affect decision making? How does that fit with your experience?
 - How can you improve your individual or team decision making with these learnings?(Fifteen minutes.)

Variations

- The choices for how to spend the money could be changed to create more controversial discussions. For example, someone might want to give all of the money to an abortion clinic or to support a revolutionary government in another country.
- The subgroups could simply be told to make a decision without the instruction that it be by consensus.
- Individuals could rank the choices first before proceeding to the group task.

Submitted by R. Glenn Ray.

THE LOTTERY CONSENSUS SHEET

The Situation

Five friends who work together in an office have been playing the lottery together for three years. Every week, each person pays in five dollars to purchase tickets. Three months ago, one of the five lottery players, Chris, decided to quit the group. The other group members begged Chris to continue playing and agreed to Chris's condition: The distribution of any winnings would be based on the consensus of the group. If the group could not come to consensus, then the money would be given to the federal government to reduce the national debt.

Last week the group won ten million dollars! The following positions have been identified by individual group members:

Chris: Wants to hold a winner-take-all drawing.

Dale: Wants to give all of the money to environmental causes.

Pat: Wants to use all of the money to create a foundation to bring art and music to elementary schools.

Robin: Wants to purchase a villa in the south of France and allocate shares of vacation time equally to all group members.

Kelly: Wants all of the members to invest in a computer-chip manufacturing company.

The Task

Use consensus decision making to rank the suggestions from best to worst (1 to 5, respectively). It is important to remember that you must reach a consensus regarding the ranking given to each item. "Consensus" means that each member of the subgroup agrees to implement the plan. Coercion and methods of conflict avoidance such as averaging, voting, and trading agreements between individuals are not allowed.

Name	Rank
Chris	
Dale	
Pat	
Robin	
Kelly	

Be prepared for a spokesperson to explain the rationale behind the ranking and the values inherent in the rationale.

Rationale:

Values:

THE LOTTERY OBSERVER SHEET

Instructions: Observe your subgroup's decision-making process and make notes in the following areas:

How did your subgroup approach the task?

What aspect of the task caused the most discussion?

Which decisions were made first? Last?

How did the subgroup follow the guidelines for consensus decision making?

■ **COPING STRATEGIES: MANAGING STRESS SUCCESSFULLY**

Goals

- To offer the participants an opportunity to identify their own patterns of response to stressful situations.
- To assist the participants in identifying thoughts, feelings, and behaviors that help and hinder in coping with stress.
- To encourage the participants to generate alternatives for reducing their self-defeating reactions to stress and for enhancing the positive reactions that lead to successful outcomes.

Group Size

Two to six subgroups of three to five members each.

Time Required

Approximately one and one-half hours.

Materials

- A copy of the Coping Strategies Work Sheet for each participant.
- A pencil for each participant.
- Blank paper for each subgroup (for the recorder's use).
- A newsprint flip chart and a felt-tipped marker.
- Masking tape for posting newsprint.

Physical Setting

A room large enough so that the subgroups can work without disturbing one another. A table and chairs should be provided for each subgroup. If tables are not available, the facilitator should provide a clipboard or other portable writing surface for each participant.

Process

1. The facilitator announces the goals of the activity and distributes copies of the Coping Strategies Work Sheet and pencils. The facilitator asks each participant to

think of two personal experiences of stress, one that he or she dealt with successfully and another that he or she did not handle well, and then to complete the work sheet accordingly. (Fifteen minutes.)

2. The participants are instructed to assemble into subgroups of three to five members each. The members of each subgroup are asked to discuss the contents of their work sheets and to identify *recurring patterns of perceptions, thoughts, feelings, behaviors, and resources* for successful experiences and unsuccessful experiences. The facilitator instructs each subgroup to select a recorder to record these patterns and to report them later to the total group. Each subgroup is given blank paper for the recorder's use. (Thirty minutes.)
3. While the subgroups are working, the facilitator prepares several sheets of newsprint, dividing each sheet into two columns, one with the heading "Successful Experience" and the other with the heading "Unsuccessful Experience." Periodically the facilitator informs the participants of the remaining time.
4. After thirty minutes the facilitator reconvenes the total group and asks the recorders to take turns reporting the patterns that were identified. As the patterns are announced, the facilitator records each on newsprint under the appropriate heading. As each newsprint sheet is completed, it is posted. (Fifteen minutes.)
5. The facilitator leads a discussion based on the identified patterns of successful and unsuccessful experiences in coping with stress. The facilitator asks the following questions:
 - What patterns of successful coping do you identify with or find particularly appealing?
 - How might you incorporate these patterns to a greater extent into your own style of coping with stress?
 - What patterns of unsuccessful coping do you particularly identify with?
 - What might you do to minimize the recurrence of these self-defeating patterns in your own reactions to stress?
 - What other resources (other people, techniques, and/or tools or equipment) might be useful to you as you strive to cope with stress more effectively?
 - What would be an appropriate first step for you to take in dealing with your next experience of stress?
 - What is it about any kind of stress that we most need to learn to deal with?

Variations

- Copies of the work sheet may be distributed in advance so that the participants have more time to compose their responses.

- If the total group is small, the facilitator may eliminate the use of subgroups and may record the patterns directly on newsprint.
- The participants may be instructed to concentrate exclusively on either work-related stress or nonwork-related stress.
- The activity may be used to assist an intact work group in dealing with work-related stress. In this case the concluding discussion may be expanded by asking the participants to identify which elements in the work setting tend to alleviate or exacerbate stress, what action steps might be taken, who might take those steps, and by when. In addition, arrangements for a follow-up meeting should be made.
- After step 5 the participants may be asked (1) to complete individual action plans or (2) to role play a stressful situation using the strategies that they have learned.

Submitted by Anthony M. Gregory.

COPING STRATEGIES WORK SHEET

Successful Experience

1. Describe a situation in which you coped well with stress. (How did you perceive and/or assess the situation? What did you think was happening?)
2. What perceptions, thoughts, feelings, behaviors, and resources helped you to succeed in this situation?
3. How have you integrated these perceptions, thoughts, feelings, behaviors, and resources into your typical style of dealing with stress?
4. What other perceptions, thoughts, feelings, behaviors, and resources could you use in order to cope even better with stress?

Unsuccessful Experience

1. Describe a situation in which you did not cope well with stress. (How did you perceive and/or assess the situation? What did you think was happening?)
2. What perceptions, thoughts, feelings, and behaviors prevented you from dealing with this situation effectively?
3. As a result of this experience, what did you learn about coping with stress? What would (or did) you do differently the next time?

Comparison

Review your responses to the sections on “Successful Experience” and “Unsuccessful Experience.” Describe the differences in how you perceived and handled the two situations.

■ ROBBERY: PLANNING WITH PERT

Goals

- To illustrate the use of the Program Evaluation and Review Technique (PERT) and Critical Path Method (CPM) in planning.
- To allow participants to experience the scheduling and timing of both simultaneous and sequential activities.
- To demonstrate the creation of a basic PERT chart.

Group Size

Any number of subgroups of approximately five participants each.

Time Required

One and one-half to two hours.

Materials

- A copy of the Robbery Instruction Sheet for each participant.
- A copy of the Robbery Answer Sheet for each participant.
- Newsprint for each subgroup.
- Felt-tipped markers for each subgroup.
- Masking tape.

Physical Setting

A room that is large enough for the subgroups to work without disturbing one another, and wall space for posting newsprint.

Process

1. The facilitator delivers a lecturette on PERT and CPM. The lecturette must show how both simultaneous and sequential activities are dealt with by PERT and how the critical path is constructed. The facilitator draws a PERT chart on newsprint as part of the lecturette. (Fifteen to thirty minutes.)
2. The facilitator divides the participants into subgroups of five members each, if possible (four or six members each if necessary), and directs the subgroups to assemble in different areas of the room. (Five minutes.)

3. The facilitator distributes one copy of the Robbery Instruction Sheet to each participant, allows time for the participants to read their sheets, and answers any questions. (Fifteen minutes.)
4. The facilitator distributes newsprint and felt-tipped markers to the subgroups, reminds them that they are to draw their PERT charts on the newsprint, and tells them that they have twenty minutes in which to complete the task.
5. The facilitator gives a time warning after fifteen minutes and calls time after twenty minutes. Each subgroup's chart is posted, and one member of each subgroup, in turn, explains the subgroup's chart. (Thirty to forty minutes.)
6. The facilitator distributes the Robbery Answer Sheets and describes the procedure, timing, and critical path step-by-step. (Ten minutes.)
7. The participants are directed to take ten minutes to discuss within their subgroups:
 - Their reactions to the experience,
 - Problems they encountered in developing their charts,
 - Questions about PERT or CPM that they wish to ask.
8. The entire group is assembled, and a spokesperson from each subgroup reports on the subgroup's discussion. The facilitator lists the salient points and any questions on newsprint. (Fifteen minutes.)
9. The facilitator solicits answers and comments from all the participants regarding the questions and points listed. (Five minutes.)
10. The entire group discusses the uses of the PERT and CPM processes and suggests situations in which these processes would be helpful. (Ten minutes.)

Variations

- The task can be made more difficult by the addition of more activities.
- Subgroups can "act out" their charts for the total group.
- The facilitator can draw a PERT chart of the entire activity to illustrate the concept more vividly.

Submitted by Mark P. Sharfman and Timothy R. Walters.

ROBBERY INSTRUCTION SHEET

Background: You are members of a notorious bank-robbing gang. The secret of your success is that your robberies always are well planned. For your next caper, you have selected a rural branch of the Second National Bank. From your surveillance, you have discovered that it will take the police seven minutes and thirty seconds to reach the bank once the alarm has sounded. You now want to determine if the robbery can be completed successfully in that time.

To complete the robbery, two members of your gang (one sharpshooter and a safecracker) will be dropped off behind the bank and will be responsible for picking the lock on the rear door. The rest of the gang will be driven to the front of the bank to wait. Once the alarm has sounded, the entire gang will enter the bank. The sharpshooters will point their weapons at the guards and the customers, the counter leaper will leap over the counter and empty the teller drawers, and the safecracker will crack or blow open the safe and empty it. Once these things have been accomplished, the gang will leave.

Your task is to determine whether the robbery can be accomplished in the allotted time and, if so, what the critical path is.

Your Task: To create a PERT chart for the bank robbery scenario.

Questions to be answered:

1. Can the robbery be accomplished in the seven minutes, thirty seconds before the police arrive?
2. How quickly can it be accomplished? (What is the critical path?)

Participants:

2 sharpshooters	1 counter leaper
1 safecracker	1 mastermind (optional with six participants)
1 driver	

Activities:

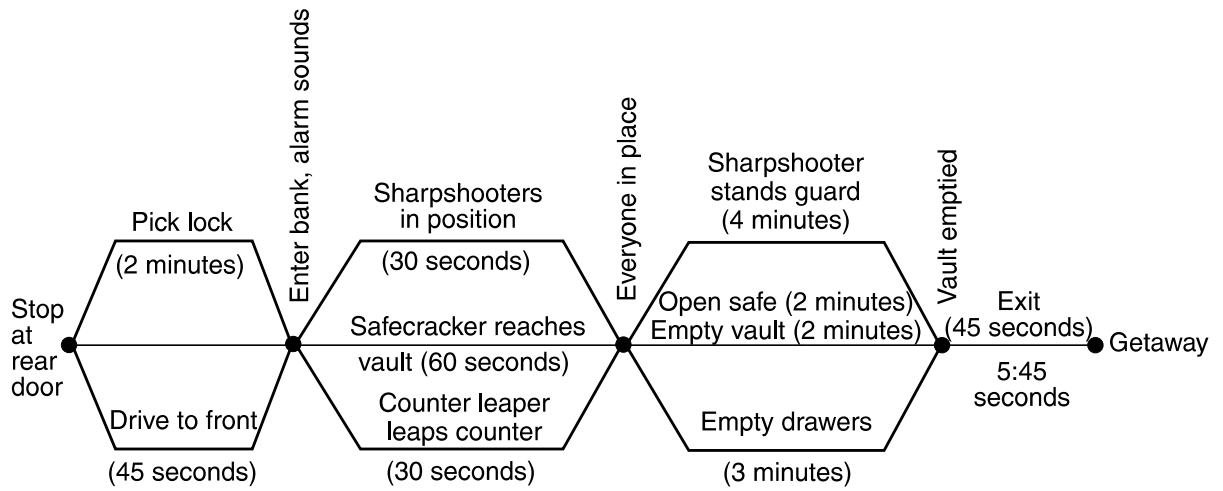
1. Drop off one sharpshooter and the safecracker in the alley behind the bank.
2. Drop off the other gang members in front of the bank.
3. Everyone enters the bank at the same time.
4. The sharpshooters take up their positions and point their weapons at everyone in the bank.
5. The counter leaper leaps over the counter and empties the tellers' drawers.
6. The safecracker cracks open the safe and empties it.
7. All members of the gang leave the bank at the same time.

8. The driver meets the rest of the gang in front of the bank when the robbery is completed.

Timing:

1. Two minutes to pick the lock on the rear door.
2. The alarm goes off when the back door is picked; the police arrive in seven minutes, thirty seconds.
3. Forty-five seconds to drive from the alley to the front of the bank.
4. Thirty seconds for the sharpshooters to enter the bank and take up their positions.
5. Sixty seconds for the safecracker to reach the safe from the back door.
6. Thirty seconds for the counter leaper to leap over the counter and start to empty the drawers.
7. Three minutes to empty the tellers' drawers.
8. Two minutes to open the safe.
9. Two minutes to empty the safe.
10. Forty-five seconds to exit from the bank and reach the car at the front curb.

ROBBERY ANSWER SHEET



■ THE IMPACT WHEEL: AN EMPOWERMENT EXPERIENCE

Goals

- To help the participants to see ways in which they can empower themselves to affect their work lives.
- To provide the participants with a useful tool for identifying the effects and ramifications of events in their work lives.
- To offer the participants an opportunity to use this tool to analyze a particular work-related event.
- To enable the participants to experience the variety of perspectives that people can have on the same event and to use those different perspectives productively.

Group Size

All members of an ongoing group assembled into subgroups of two to four people each. This activity is intended to help a group prepare for an important, upcoming “central event,” such as the implementation of a predetermined course of action. The specific event serves as the focus of the activity.

Time Required

Approximately one hour and forty-five minutes to two hours, depending on the number of subgroups.

Materials

- A copy of The Impact Wheel Work Sheet for each participant.
- A newsprint flip chart and several colors of felt-tipped markers for each subgroup.
- A newsprint flip chart and a felt-tipped marker to be used by the facilitator.
- Masking tape for posting newsprint.

Physical Setting

A room large enough so that the subgroups can work without disturbing one another. Movable chairs should be available, and either a table or an easel should be provided for each subgroup.

Process

1. The facilitator distributes copies of The Impact Wheel Work Sheet and asks the participants to read this handout. (Five minutes.)
2. The facilitator leads a discussion of the handout contents, clarifying the process of completing an impact wheel and answering questions. (Ten minutes.)
3. The facilitator announces the specific “central event” that is to serve as the focus of the activity and informs the participants that they will be creating impact wheels to prepare for this event.
4. The participants are assembled into subgroups of two to four members each, and each subgroup is given a newsprint flip chart and several felt-tipped markers. The facilitator instructs each subgroup to spend forty-five minutes completing the seven steps on the work sheet and to select a spokesperson to explain its completed work to the total group.
5. At the end of the work period, the facilitator asks each subgroup to post its impact wheel as well as its newsprint lists generated during steps 6 and 7 on the work sheet. Then the participants are instructed to “visit” one subgroup’s area at a time and examine its wheel and lists while the spokesperson explains them. The facilitator suggests that the participants note both similarities and differences between other ideas and their own. (Five minutes per spokesperson presentation.)
6. The facilitator leads a discussion focused on these issues:
 - Similarities and differences among the impact wheels and the lists;
 - Reasons for differences, including such considerations as differences in task approaches, in levels of expertise, and in perspectives; and
 - Strengths and weaknesses of the impact-wheel approach.(Fifteen minutes.)
7. The facilitator works with the total group to achieve agreement on the following items:
 - What actions the group and individual members agree to take to increase the likelihood of the positive effects (the ones listed on the posted newsprint sheets) and to decrease the likelihood of the negative effects; and
 - Which negative effects are most likely to occur and which proposed actions for transforming them into positive effects would be most likely to succeed.During this step the facilitator records group decisions on newsprint. (Fifteen minutes.)
8. A group representative is asked to keep the newsprint generated during the previous step as well as the individual impact wheels and subgroup lists. The facilitator explains that the group should meet again before the central event occurs to follow

up on actions that the group and individual members said they would take to increase the likelihood of the positive effects and to decrease the likelihood of the negative effects. The facilitator also emphasizes that after the central event has occurred, the participants should reconvene, review the newsprint notes and the impact wheels, agree on actual primary and secondary effects and whether they are positive or negative, and plan specific action steps to increase the impact of the positive effects and to turn the negative effects into positive ones. Before adjournment the facilitator elicits a follow-up commitment from the group.

Variations

- The activity may be used with several different work groups at the same time, all of which are anticipating the same central event. This approach, which can be valuable when an organization is planning a major restructuring, may require extra facilitators.
- The impact-wheel process may be used with central events from the participants' personal lives.
- The process may be used in a heterogeneous group with a case-study situation as the central event.
- In a heterogeneous group, the participants may use the impact-wheel process individually to analyze their own events. Then they may take turns sharing the results with fellow group members and receiving feedback.

Submitted by Bill Searle.

THE IMPACT WHEEL WORK SHEET

An impact wheel is a simple but powerful tool that can be used to identify the possible effects and ramifications of an event that might or definitely will happen in the future. By identifying possible effects and ramifications in advance, you can plan for them and deal with them more effectively. Although an individual can use an impact wheel to analyze a personal or work-related event, impact wheels are particularly powerful when two or more people collaborate to use them.

Here are the steps involved in creating and using an impact wheel (see Figure 1):

1. *Select a future event.* For example, if you are using the impact wheel with a work-related event, you might concentrate on something like the introduction of a new product that becomes extremely successful or the acquisition of a desktop publishing system. This event is referred to as the “central event.”
2. *Write this event in abbreviated terms in the middle of a sheet of newsprint.* For example, if you chose to concentrate on one of the events mentioned in step 1 above, you might write the name of the new product or “Desktop Publishing.”
3. *Assume that the event has already happened; write the direct consequences close to the central event, each connected to the central event with a single line.* To generate consequences, consider what might happen as a direct result of the event. For example, with the introduction of a successful new product, a direct result might be an influx of orders well beyond what is normally experienced. Direct results like this are referred to as “primary effects.”
4. *Write the secondary effects—those events that might happen as a result of the primary effects—near their corresponding primary effects, connecting each to its primary effect with a double line.* For example, with the introduction of a successful new product, a secondary effect related to the primary effect of an increase in orders might be that the company’s telephone lines would be tied up to a greater extent.
5. *Designate whether each primary effect and each secondary effect will be positive or negative by writing a + (plus) or – (minus) sign next to it.* For example, an increased influx of orders might be seen as positive, whereas the tying up of telephone lines might be perceived as negative.
6. *List what you can do to increase the likelihood of the positive effects and decrease the likelihood of the negative effects.* Make this list on a new sheet of newsprint.
7. *Determine how to turn each negative effect into a positive one.* Think of yourself as empowered to change negative effects in any way that you would like. When you start this process, try not to stifle your thinking with notions of what is or is not possible; instead, be as creative as you can in generating options for changing each negative effect. Once you have come up with a number of different options, you can begin to

eliminate some on the basis of practicality or workability; then you can choose and write on a separate sheet of newsprint the best (one or more) of the remaining alternatives. This step requires a great deal of hard thought, but it can make the difference between success and failure of the future event.

For example, the tying up of telephone lines might be made positive in that it offers (1) a way to legitimize the purchase of a more sophisticated telephone system that would provide better service, (2) an opportunity for employees to share jobs and thereby experience greater variety by donating any extra time to telephone work, (3) a chance for employees to start special projects that they have wanted to tackle (while telephone lines are busy), or (4) an opportunity to increase mailorder promotions and/or advertising.

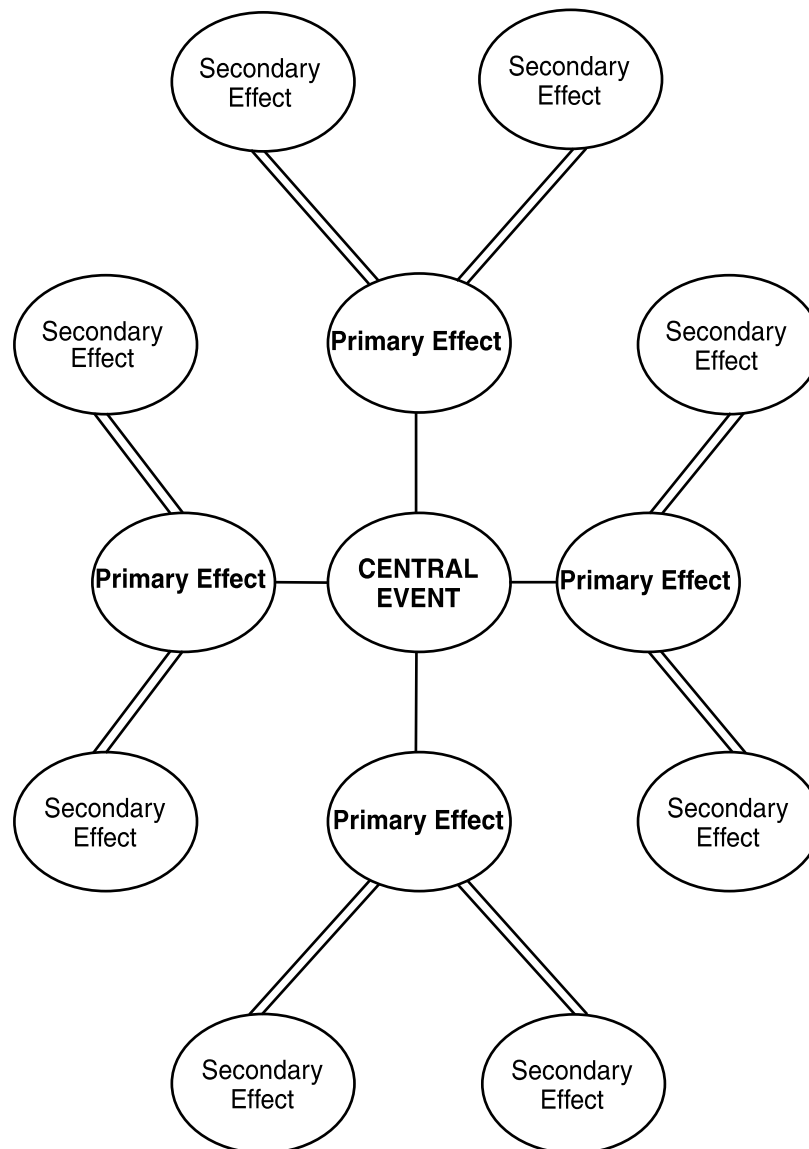


Figure 1. Illustration of the Structure of an Impact Wheel

■ MISSILES: SOURCES OF STRESS

Goals

- To identify sources of psychological stress.
- To demonstrate the effect that individual perceptions of situations have on behavior and decision making under stress.
- To experience the effects of various types of role power on persons in a decision making situation.

Group Size

Any number of subgroups of seven to nine members each.

Time Required

Approximately two hours.

Materials

- A copy of the Missiles Situation Sheet for each participant.
- A copy of one of the Missiles Role Sheets for each participant. (If there are only seven members in a subgroup, the guest roles are not used.)
- A copy of the Missiles Crisis Sheet for each subgroup.
- A copy of the Missiles Debriefing Sheet for each participant.
- A place card identifying each participant's role.
- A pencil for each participant.

Physical Setting

A separate room for each subgroup or one large room with space enough for each subgroup to deliberate without distraction.

Process

1. The facilitator explains the objectives of the activity and creates a climate for the role-play situation. A copy of the Missiles Situation Sheet and a pencil are given to each participant. The participants are instructed to read the situation sheet thoroughly. (Ten minutes.)

2. When the situation has been explained and is understood by all participants, the facilitator forms the participants into subgroups of seven to nine members each. Each participant in a subgroup receives a Missiles Role Sheet that is different from the other members' and is told to read the role sheet but not to show it to other members of the subgroup. (Ten minutes.)
3. The facilitator checks to see that all role players are familiar with their roles and ready to proceed. The facilitator also puts a place card in front of each participant so that all members can see which roles have been assigned to the other subgroup participants.
4. Members are directed to assume their assigned roles, and each subgroup is told that it will have thirty minutes to decide on the best solution to the missile crisis situation.
5. After twenty minutes of role playing, the facilitator announces that the President has suffered a heart attack and removes the President from each subgroup. The facilitator then gives a copy of the Missiles Crisis Sheet to each subgroup and tells them to continue role playing.
6. On completion of the thirty-minute role play, each participant receives a copy of the Missiles Debriefing Sheet and is directed to complete it. (Ten minutes.)
7. Participants remain in the subgroups and discuss the experience, including their answers to the questions on the Missiles Debriefing Sheet. Special attention is given to the need for participants to free themselves from the roles as part of the debriefing process. (Twenty minutes.)
8. The facilitator leads a brief discussion comparing the effects of the experience across subgroups. (Ten minutes.)
9. The subgroups are then given the task of identifying three major sources of stress and an effective way to cope with each. (Twenty minutes.)
10. The facilitator leads the total group through a sharing of subgroup reports. Patterns and similarities in these reports are noted. (Ten minutes.)
11. Generalized learnings from the experience are elicited from the participants, and participants are then encouraged to formulate their own ideas for personal application of their learnings. (Ten minutes.)

Variations

- A single group can participate in the role play while other participants serve as observers. Following the role play, the observers identify factors that they believe contributed to the stress and/or solution.
- The vice president can be removed from the subgroup at the same time as the President. This often results in a leaderless-group situation. During the debriefing the subgroup can discuss who emerged as the leader and why.

- Following the activity each member reads his or her role to the other participants. The discussion then focuses on how different aspects of role expectations can result in stress in work groups and how role-clarification activities can help to manage these stressors.
- During step 7 the facilitator can give a lecturette on types of power, and the processing at step 8 of the activity can focus on members' reactions to various types of power in their work situations.

Submitted by Karl A. Seger.

MISSILES SITUATION SHEET

You are one of the foremost military or political leaders in your country and have just been rushed to a bunker hidden deep in the hills near the capital city. There are enough supplies in the bunker for the people present to remain here for three years.

The leaders of the second most powerful nation in the world, Brenghorn, have just announced that they are going to launch a nuclear attack on your country unless you immediately turn over to them all of your military bases and equipment outside the country. To demonstrate their sincerity in making this threat, they have designated five target cities—each with a population of more than one million people—and have stated that they will launch nuclear missiles against these cities if their demands are not immediately answered.

In the past three months Brenghorn has made similar threats to three smaller countries. On each of these occasions an emergency meeting of the U.N. Security Council has been called, but Brenghorn holds a permanent seat on the Council and has vetoed all attempts for action against it. Two of the threatened countries relented to the demands of Brenghorn; the third did not, and a city of 750,000 people was destroyed by an attack with nuclear weapons.

The threat against your country was delivered to the major television networks, and the entire nation knows about it. However, only the people in this bunker know the identities of the five target cities.

Brenghorn also has stated that if one of your missiles is launched against it, it will unleash its entire arsenal against you, thereby ensuring total annihilation of both countries.

For you to give in means that Brenghorn will have enough military power, strategic bases, and arms to effectively control the world. You do not know if Brenghorn is bluffing.

It takes twenty-two minutes for a missile with a nuclear warhead to travel from Brenghorn to the closest strategic location within your country.

The initial threat was issued at 12:39 p.m. It is now 1:45 p.m. Brenghorn is waiting for your response.

Be sure that your subgroup considers all the alternatives available to it and takes advantage of the time allocated to seek the best possible solution to the situation.

MISSILES ROLE SHEET

President

You came from a poor family and had to work your way through law school. Two years ago, your party asked you to run for the presidency. You agreed but did not expect to win. At forty you are the youngest President in history and are determined to do the best possible job while in office. You took office three months ago, and you know that all the people in this room feel that they are better qualified to deal with this crisis than you are. The vice president is especially difficult to deal with because he feels that he should have been the party's choice for the presidency. All the military officers know that you had a draft deferment and are considered a pacifist, so it is likely that they consider you unqualified to serve as commander of the armed forces. But you are the President, and the responsibility for what happens today rests on your shoulders.

Your family has been moved to a safe area.

MISSILES ROLE SHEET

Vice President

You should be the President. You served twenty years in the legislature, eight years as vice president during the previous administration, and expected your party to ask you to run for President in the last election. Instead they asked a young unknown to run, and you are again serving as the vice president. The new President is inexperienced and naive.

This person never served in the armed forces and has been labeled a pacifist. The President took office just three months ago and is the youngest President in the history of the country. Now that the country is faced with a crisis the President is not capable of handling, it may be your opportunity to assert yourself and prove that you are best for the job. You know that the chief of staff and general of the Army are on your side and that the secretary of defense is on the President's side. You are not sure about the other people present. On your way to this meeting the President asked you to sit quietly, nod in agreement, and present a united front.

Your entire family is in one of the target cities.

MISSILES ROLE SHEET

Secretary of Defense

You really wonder why you are here. You were recently nominated by the President but your appointment has not been confirmed. You have not been briefed by the military and are meeting the generals present for the first time. The President, an old friend of yours, is forty years old and assumed office just three months ago. The vice president is bitter about not being asked to run for the presidency. All the military people present feel that you and the President are naive, and maybe they are right. You do not feel comfortable here and would like to check on your family, which is in one of the target cities.

MISSILES ROLE SHEET

Chief of Staff

You are the most experienced military officer in the world. All the generals at this meeting look up to you and know that you are the most important person in this room. The secretary of defense was just appointed and has not yet been approved by Congress. The vice president is a power-hungry has-been, who served eight years as the vice president under the last President and was not any better then. The new President is inexperienced and naive, never served in the military, has been labeled a pacifist, and assumed office just three months ago. This person is only forty years old. The only way to survive this crisis is to call Brenghorn's bluff. You have no family and believe that, if necessary, both countries should fire all their missiles, totally destroying the outside world. In three years the people in this bunker could emerge and begin a new, and much better, world.

MISSILES ROLE SHEET

General of the Army

There are a lot of stupid people at this table, especially the admiral of the Navy. For years the admiral has been cutting into your budget, and now when you really need all the strategic weapons you have been asking for, they are not there. Let the Navy save the world if it is so important! The President is young, naive, and just took office three months ago. The chief of staff is becoming senile. Only the vice president may still have the capacity to assume leadership and resolve the crisis. The vice president is experienced, knowledgeable, and has been against the attacks on the Army's budget.

MISSILES ROLE SHEET

Admiral of the Navy

For years you have claimed that because of its mobility at sea the Navy would be the first line of defense in this type of crisis. Now that the crisis is here, it is up to you to solve it. The President is inexperienced and naive, having taken office just three months ago. The vice president and chief of staff are ambitious and vengeful, sometimes even psychotic. The general of the army hates you for cutting into the budget and is waiting to prove that you were wrong. The pressure is on you to resolve this crisis. Your family lives in one of the target cities.

MISSILES ROLE SHEET

General of the Air Force

Although you have been in the Air Force for twenty-seven years, your life recently underwent a dramatic change when you survived a serious airplane crash. You now believe that all things are planned somehow and will work out for the best. You wish you could transfer this faith to the new President, who is still naive, and the vice president and chief of staff, who are so hard and callous. If this crisis is meant to be, it must be for a reason. After all, history has shown that all events perform some function—even the great plagues reduced overpopulation and encouraged medical science. The way you see it, this situation is meant to teach the world a great lesson.

MISSILES ROLE SHEET

Guest #1

All the other people at this table are maniacs! The President and the secretary of defense are young, naive, and inexperienced. Everyone else is a powermonger. You may be the only rational person in this room, but none of these people know you. You are a military and political-science professor at a major university and are considered one of the world's greatest authorities on the potential threat of nuclear warfare. You had a briefing scheduled with the President for today, and when the crisis started you were asked to accompany the staff to this bunker. Actually you feel out of place because no one really wants you here. You would rather be with your family, which fortunately is not in one of the target cities.

MISSILES ROLE SHEET

Guest #2

You are the world's foremost authority on Brenghorn and have been rushed here by the President's staff. You have never met any of the people at this table, and none of them know who you are or why you are here. The President was recently elected and is not ready for this type of crisis. You do not know if the other people here are capable of dealing with it either, but you are certain that Brenghorn is not bluffing. You are worried because your family lives in one of the target cities and you have three small children.

MISSILES CRISIS SHEET

Brenghorn has just launched five missiles. You do not know if they are armed with nuclear warheads.

MISSILES DEBRIEFING SHEET

What was your subgroup's solution to the crisis?

Did you agree with this solution? Did you state your disagreement?

Which of the following stressors did your subgroup experience? What contributed to the presence of these stressors?

- Interpersonal conflict
- Intragroup competition
- Role conflict
- Role ambiguity
- Overload
- Conflicting demands
- Responsibility for others

What other sources of stress were experienced within your subgroup?

How did individuals respond to the stress that they experienced?

How did role power affect the decision making?

■ WAHOO CITY: A ROLE ALTERNATION

Goals

- To experience the dynamics of an alternate, unaccustomed role in a situation of community (or organizational) conflict.
- To develop skills in conflict resolution, negotiation, and problem solving.
- To introduce process analysis and feedback as necessary community (or organization) development techniques.

Group Size

A minimum of sixteen participants.

Time Required

A minimum of two hours.

Materials

- One copy of the Wahoo City Summary of Events Sheet for each of the four clusters.
- A different Wahoo City Role-Description Sheet and its accompanying Additional Information Summary Sheet for each cluster.
- One copy of the Wahoo City Special Information Input for cluster 1.
- Signs and name tags in four different colors to designate clusters.

Physical Setting

A room large enough to accommodate clusters comfortably for small group discussion. A central arrangement of chairs and a table for the representatives' meetings. (Clusters may meet in separate rooms for their planning and discussion sessions.)

Process

1. The facilitator discusses goals, focusing on learning by assuming another role.
2. Four clusters are formed by participants volunteering to play roles they would not ordinarily assume. They go to the part of the room designated as their "turf" by a sign (e.g., City Manager's Office). Name tags designating members of each cluster are distributed.

3. A copy of the Wahoo City Summary of Events Sheet and a copy of the Wahoo City Role-Description Sheet are given to each cluster, and time is allowed to read the information.
4. The facilitator may spend some time helping the cluster members assume their roles by answering questions and suggesting alternative behaviors.
5. The facilitator may wish to address the entire group, emphasizing the following points:
 - The need for participants to “play it straight” by carrying out their role responsibilities as authentically as possible.
 - The accountability of representatives to the cluster.
 - The need to be creative in order to maximize learning.
6. The facilitator then distributes a copy of the appropriate Wahoo City Additional Information Summary Sheet to each cluster and announces that a representatives’ meeting will be held in fifteen minutes.
7. The facilitator moves the group through the following stages:
 - First cluster planning session (step 6).
(Fifteen minutes.)
 - First representatives’ meeting.
(Fifteen minutes).
 - Distribution of the Wahoo City Special Information Input to cluster 1.
 - Second cluster session, first half for processing the representatives’ meeting (fifteen minutes) and the second half for planning and strategy (fifteen minutes).
 - Second representatives’ meeting.
(Fifteen minutes).
8. The facilitator stops the activity. Each cluster is given fifteen minutes to process its functioning. All participants should then be seated in a large circle to share their learning and to process the whole exercise.

Variations

- The same structure can be used with a different content.
- Any number of special inputs—rumors, telephone messages, telegrams, etc.—can be introduced into the cluster meetings.
- Clusters may be reconstituted in the middle of step 7, with participants volunteering to play new roles.

Submitted by Peter Lawson.

WAHOO CITY SUMMARY OF EVENTS SHEET

The following summarizes events that led to the present crisis, as reported in the *Wahoo City Press-Citizen* and the *Daily Wahoo*.

9/15— Four UW students were badly beaten by two carloads of gang members. One student was critically wounded and may suffer permanent partial paralysis. Gang members were reported as saying they were going to “clean up the University.”

9/17— At 10:00 p.m., two carloads of men attacked UW students on the campus. A coed, the daughter of a Plain City university official, reports phone calls threatening to “kill all the freaks.”

9/20— A bomb threat was phoned to the Director of Athletics at UW. The football game with State is in danger from bombers. The Director was quoted as saying, “We’ll play the game in an empty stadium if necessary.”

9/20— Arson attempts were made at the UW Art Museum and the UW Library. The initials of a well-known gang were painted on the buildings. Police have “suspects” but refuse to divulge whether or not they are university students.

9/22— Eleven UW students were attacked in three separate incidents. “Hard hats” were allegedly present. According to one victim, the attackers said, “We’re cleaning up the campus.” Another victim, a UW graduate student, accused police of “total neglect and disinterest” in pursuing alleged attackers.

The *Daily Wahoo* reported an increasing number of cars cruising the UW campus. An editorial called for concerted police action.

A television news interview indicated that the City Police, according to the Chief, “have no leads at all on the attacks on students.”

9/23— Three UW students were admitted to the hospital following daylight beatings by men “cleaning up things.” The UW Faculty Senate today condemned the vigilante attacks and called for swift police action.

9/24— A “Peace Party Picnic and Rock Festival” on the UW Men’s Athletic Field was marked by violence as “hard hats” waded into the crowd. Twenty-two students were treated for injuries. A UW faculty member who witnessed the beatings accused the City Police and Campus Security personnel of “turning their backs.” The Vice President of the UW Young Republicans alleged that police undercover agents recorded the event on both still and movie cameras.

A *Wahoo City Press-Citizen* by-lined report indicated that no arrests in the incident were made by any police personnel. Three students were booked following the picnic for unlawful possession of marijuana.

WAHOO CITY ROLE-DESCRIPTION SHEET: CLUSTER 1

DATE: 9/25

You are the *City Manager's Office*. You are here to discuss plans for a meeting that you have called for this afternoon. You have invited representatives from the UW Provost's Office, the Wahoo City Student Coalition, and the Citizens for Concerted Action to lay plans for meeting the crisis that has been developing over the last several weeks. The noon editions of the *Wahoo City Press-Citizen* and the *Daily Wahoo* have reported plans for a protest rally to be held on the steps of Bower Hall this evening. The potential for violence is great.

ADDITIONAL INFORMATION SUMMARY SHEET: CLUSTER 1

In addition to press reports, you have the following information:

1. The County Sheriff has said that deputies will not deal with the situation. "The duty rests with the City and County Police and with Campus Security."
2. The City Police Chief has said privately that the situation could best be handled by the University administration. "All they have to do is use the new Code to get rid of all the radical students and faculty." The Chief will not act on the campus without the official written request of the University administration.
3. Informants report that "hard hats" may be behind the bomb threats and arson attempts and that a well-known gang is planning to shut down the University with a student strike.
4. The City Manager has been notified that the Lincoln State Police (Plain City) have put all personnel on riot alert. State Police Headquarters has also indicated in an official message that forty officers have been moved into the Wahoo City Hotel.
5. The Governor's Administrative Assistant has made several phone calls checking on the situation, to keep the Governor informed in case the National Guard has to be called in.

WAHOO CITY ROLE-DESCRIPTION SHEET: CLUSTER 2

DATE: 9/25

You are the *UW Provost's Office*. You are meeting to prepare your plans and strategies for a meeting that has been called for this afternoon by the City Manager to discuss the crisis that has been developing over the last several weeks. The noon editions of the *Wahoo City Press-Citizen* and the *Daily Wahoo* have reported plans for a protest rally on the steps of Bower Hall this evening. The potential for violence is great.

ADDITIONAL INFORMATION SUMMARY SHEET: CLUSTER 2

In addition to press reports, you have the following information:

1. An increasing number of parents have been pressing for better protection concerning their children. Thirty-two women students have withdrawn from the University.
2. The Legislature has been applying pressure to ensure that the University will remain open.
3. The Board of Regents have underscored the necessity of upholding the new Code of Student and Faculty Conduct.
4. Campus Security has reported an increasing incidence of "hard hats" cruising the campus in cars.
5. Faculty members report that class attendance has dropped off markedly, particularly among women students.

WAHOO CITY ROLE-DESCRIPTION SHEET: CLUSTER 3

DATE: 9/25

You are the *Citizens for Concerted Action*, an informal group formed under the auspices of the Church Federation, the United Fund Agency, and the Association of Neighborhood Councils to deal with the polarization and hostility developing in the city.

You are meeting to discuss the crisis that has been developing the last several weeks. The City Manager has asked you to send a representative to a meeting this afternoon. The noon editions of the *Wahoo City Press-Citizen* and the *Daily Wahoo* have reported plans for a protest rally on the steps of Bower Hall this evening. The potential for violence is great.

ADDITIONAL INFORMATION SUMMARY SHEET: CLUSTER 3

In addition to press reports, you have the following information:

1. Rumor: The President of the University is in ill health.
2. Rumor: The football game may be switched to Plain City because of the bomb threat.

WAHOO CITY ROLE-DESCRIPTION SHEET: CLUSTER 4

DATE: 9/25

You are the *Wahoo City Student Coalition*, an association of student organizations on the UW campus. You are meeting to make preparation for sending a representative to a meeting in the City Manager's office this afternoon to discuss the crisis that has been developing over the last several weeks. The noon editions of the *Wahoo City Press-Citizen* and the *Daily Wahoo* have reported plans for a protest rally to be held on the steps of Bower Hall this evening. The potential for violence is great.

ADDITIONAL INFORMATION SUMMARY SHEET: CLUSTER 4

In addition to press reports, you have the following information:

1. The arsonists are not students or gang members, but "hard hats."
2. The gang, which is not represented in the Coalition, has been calling for a student strike for better police protection. The gang is saying that the University should shut down unless and until students can be properly protected.
3. Rumor: There are a lot of guns in the dorms.
4. The Provost's Office, in line with the Board of Regents' policy, has made it very clear that individuals who violate the new Code will be subject to immediate cancellation of registration.

WAHOO CITY SPECIAL INFORMATION INPUT

THE GOVERNOR'S OFFICE

Plain City, Lincoln

September 25, 1993

The City Manager
Wahoo City, Lincoln

Dear City Manager:

Reports in the press indicate a growing crisis in Wahoo City.

My staff has given me hourly reports on the situation, and I am increasingly concerned over the seeming lack of control on the part of the University and the City Administration.

A report that has just come to my desk from the State Police Intelligence Unit indicates that there will be a serious and violent confrontation this evening. I am convinced of the accuracy of this report.

I am therefore, as Chief of State, issuing orders that the National Guard be called up and dispatched to Wahoo City to assume martial law.

Brigadier General Chris Williams will be in command of the operation. You will no doubt hear from the general presently, who has assured me that Guard units will be in Wahoo City and on patrol within the next four hours.

I have sent word of my action to the Board of Regents and to the President of Wahoo University. I have also notified the Chief of Police of Wahoo City and the County Sheriff by copy of this order.

Sincerely,

Terry L. Neumann
Governor of Lincoln

■ ISLAND COMMISSION: GROUP PROBLEM SOLVING

Goals

- To experience the issues involved in long-range social planning.
- To study emergent group dynamics and leadership in the completion of a group task.
- To explore aspects of communication, problem solving, and decision making in an ongoing group.

Group Size

Up to four subgroups of eight members each.

Time Required

Two to two and one-half hours.

Materials

- A copy of the Island Commission Task Agenda Sheet and a copy of the Island Commission Major City Information Sheet for each participant.
- One copy each of Island Commission Environmental Bulletins 1, 2, and 3 for each participant.
- A place card with a role name (these may be made by folding 5" x 8" index cards in half lengthwise and writing role names on them with a feltipped marker) for each participant.
- A pencil for each participant.
- Newsprint and a felt-tipped marker for each subgroup.

Physical Setting

A room large enough that all subgroups can meet separately without disturbing one another and eight chairs and a table for each subgroup.

Process

1. The facilitator divides the participants into subgroups of eight members each and gives each member a copy of the Island Commission Task Agenda Sheet, a copy of

the Island Commission Major City Information Sheet, and a pencil. He or she designates a member of the subgroup to play one of the following roles:

- director of city planning
- director of community action council
- director of chamber of commerce
- general manager of food-processing factory (largest industry in Major City)
- organization development consultant
- council member, farmer
- council member, dentist
- council member, lawyer.

Each member is given an appropriate name place card.

2. Participants are told that they have one hour in which to conduct the four meetings outlined on the Island Commission Task Agenda Sheet and to list their recommendations on newsprint. Subgroups then are directed to their meeting areas.
3. While they are meeting, the facilitator announces each fifteen-minute interval and tells the subgroups that each fifteen-minute period corresponds with a new three-month meeting of the commission. Before the second meeting participants are given the Island Commission Environmental Bulletin 1; before the third meeting, the Island Commission Environmental Bulletin 2; and before the last meeting, the Island Commission Environmental Bulletin 3.
4. At the conclusion of the meetings, the facilitator assembles the entire group and requests a progress report and set of recommendations from each commission subgroup. Each subgroup's recommendations are posted.
5. The facilitator solicits comments about the feelings and frustrations of members during the subgroup meetings, using questions like the following:
 - What roles tended to assume leadership and/or tried to control the group process?
 - What hidden agendas were operating?
 - How did new data affect the problem-solving process?
 - How did the roles affect communication in the subgroups?
 - How were decisions made? How was this affected by the composition, structure, and task of the subgroup?

The facilitator leads the group in a discussion of the difficulties inherent in long-range planning, focusing on the problems of data changes (learning based on the past may not be applicable to the future), specialization (increasing professionalism and social differentiation), a decrease in physical resources, uncertain social

resources (i.e., social stability), and an increasing rate of change coupled with less decisionmaking time.

Variations

- The consultant can give process feedback after the first and third meetings.
- Subgroups can be set up to compete with each other. The subgroup with the “best” set of recommendations is “awarded” the grant.
- Roles can be switched for one of the meetings.

Submitted by Peter G. Gillan.

ISLAND COMMISSION TASK AGENDA SHEET

Background

You were recruited by the mayor of Major City to join a special commission. You accepted enthusiastically, because you want to have an impact on the long-range recommendations that the commission will develop. You are widely respected on the island and are known to be an expert in your specialty. The mayor has indicated that your frame of reference will be important to the commission's functioning.

The Job of the Commission

The commission was formed as one of the requirements for getting a large grant for Major City. A total of twenty million dollars has been earmarked for the city—four million a year for five years.

The mayor has formed this commission to:

1. Formulate a plan for consideration of the important factors affecting the city's future; and
2. Make specific recommendations to the Major City Governmental Council for the use of the funds.

The funds will begin arriving in eighteen months, and the mayor has given the commission twelve months to complete its work. The mayor has explained that this blue-ribbon commission was formed so that the recommendations would have the greatest possible weight and has expressed the intention to work for the adoption of all the commission's recommendations.

One important background factor is that no more than 50 percent of the funds may go into capital development; i.e., human service programs must comprise at least one-half of the commission's recommendations.

The Meeting Schedule

The next hour represents the four major quarterly meetings of the commission. Each meeting will last about fifteen minutes in "real time."

1. At the first meeting, the assignment is to create a "chart of work" for the commission's next three meetings.
2. The second and third meetings are for carrying out the chart of work.
3. A product of the last meeting will be an actual set of recommendations for the use of the twenty million dollars over the next five years. (You also will be asked to hand in this list on a sheet of newsprint.)

Note: Take a minute to get into the feeling of your role. Imagine what a person in your role would think. What viewpoints would you hold? What would be important to you as you act out your role? Having thought about these things, behave from this frame of reference as you participate in the commission meetings.

ISLAND COMMISSION MAJOR CITY INFORMATION SHEET

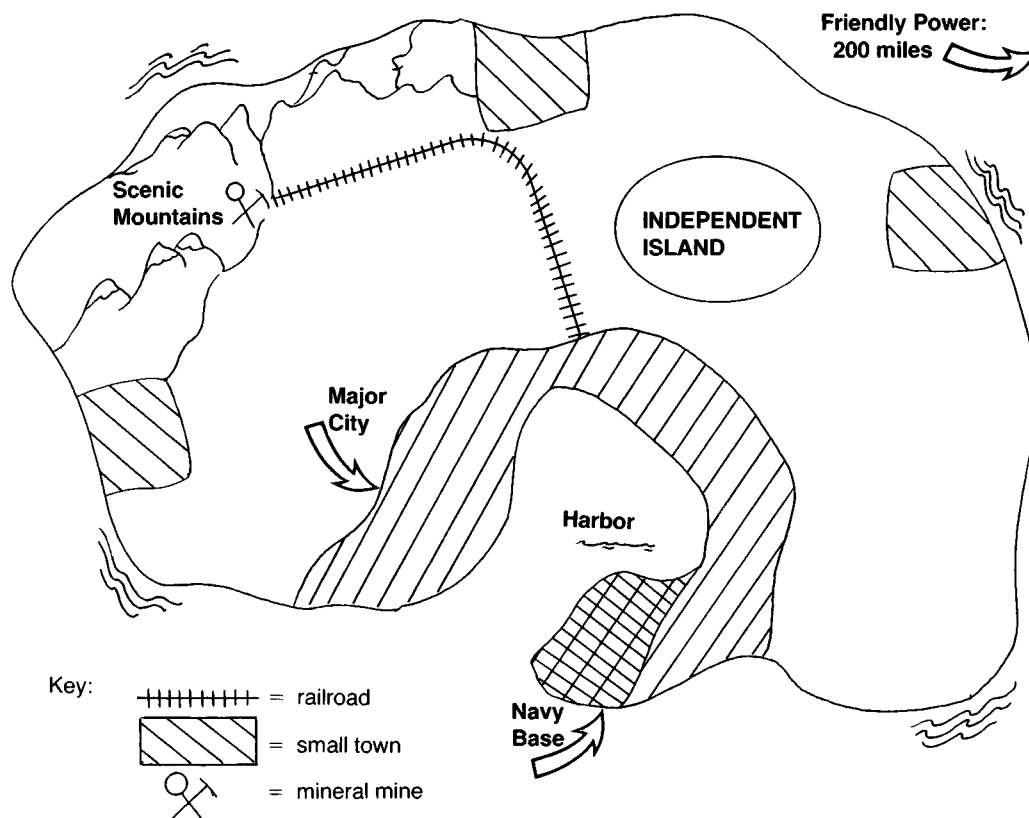
Major City is located on the coast of Independent Island (250 square miles), two hundred miles from the mainland of Friendly Power.

The population of 200,000 has grown rapidly in recent years because of immigration. These are forty square miles of city and suburbs. The surrounding area is good agricultural land. Little unused land remains in the urban area.

All power for domestic and industrial use depends on fuel imported from Friendly Power. The present power plant is being operated at 98 percent of capacity. The sewer and water plants are now operating beyond design capacity.

Major City's economy depends on the processing and export of the agricultural production of the island (35 percent), minerals mined on the island (15 percent), tourism (25 percent), the Friendly Power naval base (10 percent), and miscellaneous income (15 percent). Although the general economy is good, there is some unemployment and a sizable population of poor people.

Half of Major City's food is grown on the island. In addition to the beaches and climate, the major attractions are the island's unspoiled rural scene and the fresh fruits and vegetables, available all year, that are the basis of the famous native cuisine. The airport, located on the navy base, is used jointly for military and commercial planes. The harbor has been famous for centuries. Although picturesque, it is a very busy port, suitable for modern ships.



ISLAND COMMISSION ENVIRONMENTAL BULLETIN 1

The schools of Major City have become badly overcrowded, and a study just released to the news media states statistical proof that the quality of education is slipping.

The supply of transportation fuel has, without warning, been cut by 50 percent. Reports indicate that this is not a temporary shortage.

The heavy tourist influx from Friendly Power is just beginning, and the car rental people are expecting a big season.

ISLAND COMMISSION ENVIRONMENTAL BULLETIN 2

Growth in Major City has resulted in the need to expand the hospital facilities. The food-processing industry on which the city depends heavily also needs to expand in order to survive. The hospital and the industry are competing for the same space; no other space is available within the city limits.

The Friendly Power Navy has recently learned and has proof that a large part of the economy of Independent Island has depended on the illicit cultivation of opium poppies. The Navy has stated that if the traffic in opium is not eliminated, it will pull out of its installation.

ISLAND COMMISSION ENVIRONMENTAL BULLETIN 3

The Aviation Administration has stated that the airport cannot handle the large transport and passenger jets now in almost exclusive use by all major airlines serving the island.

Organized low-income residents demand that no expenditures be made until housing for the poor is provided. The older, established residents are demanding two-acre zoning for all new housing starts, in order to preserve the character of the city and the island.

■ **FORCE-FIELD ANALYSIS: INDIVIDUAL PROBLEM SOLVING**

Goals

- To study dimensions of problems and to devise strategies for solving them through diagram and analysis.
- To experience the consultative role.

Group Size

Up to ten trios.

Time Required

Approximately two and one-half hours.

Materials

- A copy of the Force-Field Analysis Inventory for each participant.
- A pencil for each participant.
- A clipboard or other portable writing surface for each participant.

Physical Setting

A room large enough so that the trios may carry on a discussion without distracting other trios.

Process

1. The facilitator distributes a copy of the Force-Field Analysis Inventory, a pencil, and a portable writing surface to each participant.
2. The facilitator announces that participants have thirty minutes to complete parts I and II of the inventory.
3. When everyone has finished parts I and II, the facilitator introduces part III with a lecturette on planned change and Lewin's force-field analysis. The facilitator may wish to make the following points:

In planning specific changes to deal with a problem, one should be aware that increasing the driving forces to change the status quo also produces increased tension. One should also be aware that whatever change in status quo has been

accomplished will be lost if the driving force is reduced. A change in the status quo, then, can best be accomplished by reducing the strengths of the restraining forces while maintaining the force of the drive. If the driving forces are *not* maintained, the tension will be reduced without any change in the status quo.

4. The facilitator directs participants to work for about ten minutes on part III. (They may not complete this task in the allotted time, but the next step does not require its completion.)
5. Participants are instructed to select two others with whom they feel comfortable working on problems. Each trio is seated so that it does not distract other trios.
6. Three rounds of consultation are begun. In three thirty-minute periods, each member of the trio, in turn, plays the role of a consultant, then a client, and then a process observer. In each period, twenty minutes is allotted for consultation and ten minutes for feedback to the consultant.
7. Trios process the entire experience.

Variations

- The activity can be carried out privately, in pairs, or in groups. In a work group, members can jointly analyze a problem.
- The consulting trios design can be used with other problem-analysis models.
- The inventory can be used as an interview guide for consultation with a client.

FORCE-FIELD ANALYSIS INVENTORY¹

PART I: Problem Specification

Think about a problem that is significant in your “back-home” situations. Respond to each item as fully as necessary for another participant to understand the problem.

1. I understand the problem specifically to be that...

2. The following people with whom I must deal are involved in the problem:

Their roles in this problem are...

They relate to me in the following manner:

3. I consider these other factors to be relevant to the problem:

4. I would choose the following aspect of the problem to be changed if it were in my power to do so (choose only one aspect):

¹ The Force-Field Analysis Inventory is based on a questionnaire invented by Warren Bennis and draws in part also on material developed by Saul Eisen.

PART II: Problem Analysis

5. If I consider the present status of the problem as a temporary balance of opposing forces, the following would be on my list of forces *driving* toward change: (Fill in the spaces to the right of the letters. Leave spaces to the left blank.)

_____ a. _____

_____ b. _____

_____ c. _____

_____ d. _____

_____ e. _____

_____ f. _____

_____ g. _____

_____ h. _____

6. The following would be on my list of forces *restraining* change:

_____ a. _____

_____ b. _____

_____ c. _____

_____ d. _____

_____ e. _____

_____ f. _____

_____ g. _____

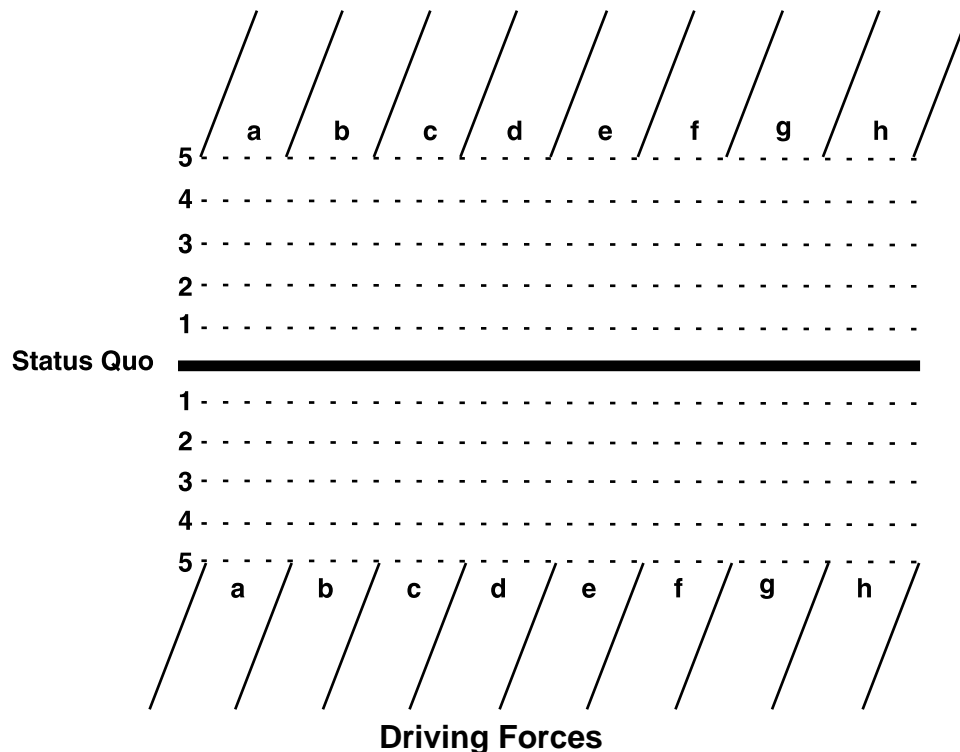
_____ h. _____

7. In the spaces to the left of the letters in item 5, rate the driving forces from 1 to 5, using the following rating key:

Rating Key

1. It has *almost nothing* to do with the drive toward change in the problem.
2. It has *relatively little* to do with the drive toward change in the problem.
3. It is of *moderate importance* in the drive toward change in the problem.
4. It is an *important factor* in the drive toward change in the problem.
5. It is a *major factor* in the drive toward change in the problem.

- ## Restraining Forces



10. Select two or more restraining forces from your diagram and then outline a strategy for reducing their potency.
11. Apply the following goal-setting criteria (the SPIRO model) to your change strategy:
 - S**—Specificity: Exactly what are you trying to accomplish?
 - P**—Performance: What behavior is implied?
 - I**—Involvement: Who is going to do it?
 - R**—Realism: Can it be done?
 - O**—Observability: Can others see the behavior?

■ DHABI FEHRU: AN MBO ACTIVITY

Goals

- To examine the process of developing task goals for individuals who are working together on a team project.
- To provide participants an opportunity to practice writing objectives as part of a Management by Objectives training session.
- To experience the difference between preparing goals for oneself and for others.

Group Size

One to five subgroups of six to nine members each (eight per group is ideal).

Time Required

Three hours.

Materials

- A copy of the Dhabi Fehru Guidelines for Writing Specific Objectives for each participant (optional).
- A copy of the Dhabi Fehru Background Information Sheet for each participant.
- A copy of the Dhabi Fehru Task Sheet for each participant.
- A copy of the Dhabi Fehru Observer Sheet for each observer.
- Blank paper and a pencil for each participant.
- Newsprint and a felt-tipped marker for each subgroup.

Physical Setting

A room in which all subgroups can work without disturbing one another, with chairs and a table for each subgroup.

Process

1. The facilitator presents a lecturette on Management by Objectives (MBO).
2. The facilitator reviews the Dhabi Fehru Guidelines for Writing Specific Objectives (copies may be distributed to participants, if desired).

3. The facilitator announces that consultant teams will be formed to prepare objectives for the various departments of the newly formed government of the kingdom of Dhabi Fehru. The participants are divided into subgroups and an observer is appointed from each subgroup.
4. The facilitator gives each participant a copy of the Dhabi Fehru Background Information Sheet, a copy of the Dhabi Fehru Task Sheet, blank paper, and a pencil. Each observer receives a copy of the Dhabi Fehru Observer Sheet. The facilitator allows time for the participants to read the information and answers any questions.
5. The participants are told that they will have two hours in which to complete the task. They are told that this time includes their organization time (the time they will have to form a formal group, determine who their leader is, allocate tasks, etc.). The observer in each subgroup serves as the Dhabi Fehru task coordinator. Questions or problems that the coordinator cannot resolve are to be brought to the attention of the facilitator. (Two hours.)
6. The facilitator gives participants a ten-minute time warning and directs each subgroup to post on newsprint one objective in each area.
7. The facilitator stops the activity, reassembles the total group, and leads a discussion comparing the various subgroups' objectives, using the Dhabi Fehru Guidelines for Writing Specific Objectives. The facilitator avoids discussion of content details, e.g., whether certain assumptions are accurate or incorrect; the only relevant concern is whether or not an objective is properly prepared. The facilitator should accept all factual assertions and assumptions made by advisory team members and should concentrate on whether the objectives written from those assumptions meet the criteria of good objectives.
8. If desired, the facilitator can focus the group on the task-organization process. This should be done only after the critique of objectives (step 7) is completed. The task coordinators then report on each subgroup's process.

Variations

- Development of team-member work objectives can be omitted.
- The facilitator can introduce an element of intergroup competition by announcing that the objectives will be judged and the best advisory team selected.
- The task coordinator (observer) can be told that he or she is a native of Dhabi Fehru and is concerned with getting the most possible out of the advisory team. Depending on how strongly this is put, a degree of intercultural conflict can be introduced.

Submitted by Dwight Bechtel.

DHABI FEHRU GUIDELINES FOR WRITING SPECIFIC OBJECTIVES

Format for a Well-Stated Objective

1. Person(s) responsible
2. Action verb
3. Specific, measurable end result
4. Specific time period or date
5. Cost in dollars and/or work hours.

A good objective states the *who*, *what*, *when*, and *maximum cost* but avoids the *how* and the *feasibility*. The action plan will cover the *how* and test the feasibility.

Checklist for a Good Statement of an Objective

Items 1 through 5 on this checklist are critical. Items 6 through 10 are important but not necessarily critical (as part of the written objective).

1. Is the objective stated in explicit and concrete terms? If possible, is the objective quantified?
2. Does it state what is to be done?
3. Does it state what the objective hopes to achieve?
4. Does it state who has responsibility for doing it?
5. Does it state when it is to be completed?
6. Does it contain a succinct statement explaining the approach to be employed in order to achieve the objective?
7. Does it include a statement of the justification for accomplishing the objective?
8. Does it detail the resources necessary for its accomplishment?
9. Does it state who is to coordinate different parts of the overall objective?
10. Does it state the criteria by which the accomplishment of the objective can be measured?

Common Deficiencies in Statements of Objectives

1. Objectives are set too low to truly challenge capabilities.
2. Individuals or groups overestimate their capabilities with inappropriate or impossible objectives.
3. Objectives do not reflect the responsibilities of the individuals who make them.
4. The objective is concerned with how to do something rather than with what is to be done.

5. No one is assigned responsibility for achieving the objective.
6. Objectives reflect an individual's perception of what the supervisor wants, not what can actually be achieved.
7. Objectives that are subsequently proven unfeasible, irrelevant, or impossible are not revised or deleted.
8. Objective completion dates are too optimistic.
9. The justification for an objective is not clearly stated.
10. The approach designed to achieve the objective is inadequate.

Examples of Well-Stated Objectives

1. The mail-room supervisor will be responsible for providing mail pickup from and distribution to five central locations within the company three times daily so as to maximize convenience for all fifteen departments. This objective shall be accomplished by January 15 at an implementation cost of no more than \$550 and twenty hours work time, with an increased operational cost to the mail room not to exceed \$100 and five work hours per week.
2. The head of the maintenance department and the assistant manager of computer operations will act as a team to be responsible for developing and implementing a computerized program for building maintenance by October 31 at a cost of no more than \$2,000 and forty work hours.
3. The executive team, working with the personnel director, shall take actions to reduce the organizational absentee rate from 9 percent to 5 percent, by September 1, at a cost not to exceed thirty-five work hours and with no increase in the existing budget.
4. The training director will develop a communication-skills program for mid-level managers, costing no more than forty work hours to develop and no more than \$500 per manager to operate (including the training department's budget as well as the cost of the manager's time, with a maximum allowable time charge of \$300 per manager).

DHABI FEHRU BACKGROUND INFORMATION SHEET

Dhabi Fehru is a small country. The population of two million consists primarily of nomadic desert tribespeople who have been ruled for centuries by one of the eight sheiks. In 1880, Dhabi Fehru became a British Protectorate; when this status ended ten years ago, the ruler, Emir Ibn Ben Dhab, proclaimed his state an independent nation and was crowned king. Dhabi Fehru is about 100,000 square miles in size, but most of the land area is desert. There are only two cities of any size, Dhabistan (the capital), with a population of 200,000, and Kalmiz, with 70,000 inhabitants.

Since huge oil reserves were discovered about four years ago, there have been some changes, especially in the overall standard of living. Per-capita income is among the highest in the world. Food, housing, education, and medical services are free to all citizens (within the limits set by availability—there is, for example, one hospital in the country). Five years ago the literacy rate was close to zero; now it is about 10 percent. English is a second language to most of the population—a heritage of British rule.

Oil income is expected to rise for at least the next decade. After that, it should be stable for at least another ten years before beginning to decline slowly as the oil reserves are depleted. The king has, therefore, decided to mount an all-out effort toward creating for Dhabi Fehru a self-sustaining industrial base. Toward this aim, King Dhab has recently brought in several teams of advisors from other countries to create specific objectives for development.

DHABI FEHRU TASK SHEET

Dhabi Fehru has immense wealth; per-capita income is among the highest of any nation in the world. The oil will not, however, last forever. The ruler, King Ibn Ben Dhab has brought in several consultant teams to advise him in his effort to develop Dhabi Fehru into a modern industrial nation. You are a member of one of these teams.

Your group's observer will serve as task coordinator. He or she is to assist your group of advisors to whatever extent is deemed appropriate. The task coordinator is to record team organization (who the team leader is, etc.). A formal organizational chart is required. Teams not submitting an organizational chart showing each member's formal position will be dismissed and sent home on the next freighter.

Once the advisory team has determined its formal structure, each consultant will prepare objectives for one or more of the areas listed below. Prior to beginning this task, written objectives must be given to the task coordinator.

People who hold supervisory positions in the advisory team (not including the task coordinator) may not work on developing objectives for Dhabi Fehru but may advise subordinates, as appropriate. Supervisors may consult with their subordinates in developing the subordinates' work objectives.

Consultants—advisory team members other than supervisors—will prepare objectives for one or more of the following areas:

Education	Transportation
Foreign Affairs	Water and Sewage
Health	Energy
Recreation	Housing
Armed Forces	Environmental Protection
Welfare	Agriculture
Industry	Finance and Investments

Each of these areas *must* be assigned and covered.

Task Summary

1. Organize; provide task coordinator with a team organizational chart.
2. Prepare work objectives for each advisory team member.
3. Prepare objectives for Dhabi Fehru.

You have two hours in which to complete these tasks.

DHABI FEHRU OBSERVER SHEET

1. You are to approve or disapprove your subgroup's organizational chart. All members of the advisory team must be shown on the chart. You may not make suggestions on how to make the chart. The chart need not follow traditional organizational patterns. As long as everyone is assigned a position within the organization, it is acceptable.
2. Observe to see if there are any specific skill considerations in assigning jobs during the activity.
3. Enforce the writing of work objectives before allowing the advisors to begin writing objectives for Dhabi Fehru.
4. Check all work objectives to see if each contains the following:
 - a. Person(s) responsible
 - b. Action verb
 - c. Specific, measurable end result
 - d. Specific time period or date
 - e. Cost in dollars and/or work hours.

Question the group members to be sure that they understand the task, i.e., do all members thoroughly understand the objective in its final form?
5. You may answer questions as you see fit. While you need not share the information on this sheet, you may choose to do so. In order for the project to go well, you must share the information on the Dhabi Fehru Task Sheet and you must carry out the above instructions.

■ **WRECK SURVIVORS: OPERATING FROM STRATEGIC ASSUMPTIONS**

Goals

- To explore common patterns found in group problem solving and consensus seeking.
- To enable participants to practice clarifying strategic assumptions.
- To identify the differences between “strategy” and “tactics.”

Group Size

Up to seven subgroups of five to seven members each.

Time Required

Two hours to two hours and twenty minutes.

Physical Setting

A room with a chair for each participant and enough space for the subgroups to work without disturbing one another. (One room that will accommodate the total group and smaller rooms in which the subgroups can meet is best.)

Materials

- A copy of Wreck Survivors Situation Sheet for each participant.
- A copy of the Wreck Survivors Individual Task Sheet for each participant.
- A pencil for each participant.
- A copy of the Wreck Survivors Group Task Sheet for each subgroup.
- A copy of the Wreck Survivors Possible Solutions Sheet for each participant.
- A newsprint flip chart and felt-tipped markers for each subgroup.
- Masking tape for posting newsprint.

Process

1. The facilitator introduces the activity as a problem-solving task and distributes a copy of the Wreck Survivors Situation Sheet and a copy of the Wreck Survivors Individual Task Sheet to each participant. The facilitator tells the participants to read their sheets individually and then to begin the task. (Ten minutes.)

2. After ten minutes, the facilitator calls time and divides the total group into subgroups of five to seven members each. Each subgroup receives a copy of the Wreck Survivors Group Task Sheet, a newsprint flip chart, and felt-tipped markers and is directed to a different area of the room or to a separate room. The subgroups are advised that they have forty-five minutes in which to read the group task sheet and to complete the task. (Five minutes.)
3. After thirty minutes, the facilitator warns the subgroups that they have fifteen minutes left. When the time is up, the subgroups are directed to return to the main meeting area with their flip charts. (Fifty minutes.)
4. The facilitator explains that there is not just one correct solution and that each subgroup's implicit survival strategy will have affected its choice of items. The facilitator asks each subgroup, in turn, to post its list of items. The subgroup members then are asked to report what they think their survival strategy was and how they think that strategy affected their choice of items, highlighting the *first three* and the *last three* items on its list as examples. (Ten to twenty minutes.)
5. The facilitator distributes a copy of the Wreck Survivors Possible Solutions Sheet to each participant and allows time for the sheet to be read. (Five minutes.)
6. The subgroups' lists are then reviewed for similarities to the strategies identified on the Wreck Survivors Possible Solutions Sheet. Additional strategies are also identified. If it appears that any subgroup failed to reach a decision about its strategy, the facilitator asks how that affected the subgroup's deliberations, i.e., how did that subgroup's process differ from that of the other subgroups? (Five to ten minutes.)
7. The facilitator says that, in any consensus task, it is usual for some group members to try to "sell" their own assumptions and choices to their groups. The facilitator asks how the focus on group strategy as a task affected this tendency. (Five to ten minutes.)
8. The facilitator asks whether, in attempting to reach consensus, any subgroup members engaged in conflict-reducing strategies such as voting, "horse-trading," averaging, or the like. The participants are encouraged to assess the impact of such behaviors on the strategic quality of the subgroup's decision. (Five to ten minutes.)
9. The facilitator leads a concluding discussion based on the following questions:
 - How often, in real life, do groups start with an analysis of the situation and the task?
 - How often do members stop to consider whether they have different perceptions of the final objective or strategy and, thus, of what tactics are needed to attain it?
 - How would you describe your organization's strategy? Can you identify it? How does it affect what is done in your organization?
 - What have you learned most from this experience?

- How can you use these learnings with other groups?

(Twenty minutes.)

Variations

- The Wreck Survivors Group Task Sheet can be amended to indicate that a strategy for survival is a key element and that each subgroup is to articulate the strategy for survival on which its final list is based.
- A short lecturette on organizational strategy and how it affects tactics may be provided if appropriate to the group.
- A list of items generally found on boats may be supplied on the Wreck Survivors Individual Task Sheet.

Submitted by Virginia Prosdocimi.

WRECK SURVIVORS SITUATION SHEET

A private yacht, sailing through an archipelago located between the 10th and 20th parallels in the Pacific Ocean, is caught in a sudden storm and runs aground violently on a coral reef. The passengers and crew miraculously reach the sandy shores of one of the islands. Shortly before the wreck, the crew had estimated that the port they were heading for was about 300 nautical miles away. Before abandoning ship, shortly before the impact, they tried a MAYDAY message on the radio with approximate coordinates; it was not possible to repeat the distress message or to receive a reply because of the rush of events. Unfortunately, the chances of the message getting through—in view of the atmospheric conditions, the quality of the transmission, and the distance—were very poor.

The situation can be summarized as follows:

1. The island is small and uninhabited. There is plenty of tropical vegetation, and among the plants abound coconuts, mangoes, and bananas. It rains in the afternoon most days, but the climate is mild and does not require heavy clothing. At low tide, fish and shellfish can be seen just offshore.
2. Nobody had time to pick up any supplies from the yacht. The passengers' and crew members' pockets contain cigarettes, matches, two lighters, and a pocket knife. Among them, they have three watches.
3. The lagoon between the beach and the coral reef where the yacht ran aground is approximately 900 yards in diameter and has an area of deep water.
4. Only a few of the passengers and crew members are good swimmers.
5. Most certainly, all the equipment aboard the yacht (i.e. radio transmitter, radar, generators) was destroyed on impact.
6. The crew predicts that the yacht will be dragged along the reef and will sink at high tide about eight hours later.

The total group has decided that the wrecked yacht must be reached before it sinks in order to recover those items necessary for future survival. Those persons who are the best swimmers will go to analyze the situation on board the yacht and attempt to bring supplies back to the shore. The group needs to prepare a list of those items that it considers most valuable for the group, selecting them in order of priority. Anticipating this, some crew members have compiled lists of items they think will be needed. Because time is valuable, it is decided that the total group's list will include fifteen of these items (the most that can be retrieved in the time available), listed in order of priority. Each person may suggest one alternative item not on the original list, which he or she may place on the list of fifteen if so desired.

WRECK SURVIVORS INDIVIDUAL TASK SHEET

During this task, do not communicate with anyone. Your task is to rank, in order of priority, fifteen items from the following lists. In addition, you have the option to add one item of your choice that in all probability was left on board the yacht. Next to the number “1” on the next page, write the name of the item you believe is the most important. Continue until you reach number “15,” the *least*-important item. You will have fifteen minutes to complete this task.

These items are the choices of five members of the crew:

Chris

ax
hammer and nails
knives
fishing tackle
transistor radio
plastic buckets

Pat

bed sheets
blankets
cooking pots
canned food
beverages
first aid kit

Dale

suntan lotion
toilet articles
mirror
condensed milk
chocolate bars
mosquito netting

Kelly

rope
binoculars
water tanks
large plastic sheet
bottles of rum
life preservers

Robin

marine charts
pistol and ammunition
wooden planks
tool box
flippers and harpoon
shark repellent

Item of your choice, if any:

Individual Ranking

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
- 10.
- 11.
- 12.
- 13.
- 14.
- 15.

WRECK SURVIVORS GROUP TASK SHEET

The subgroup members now will have to agree on a single list, which they will write on newsprint—fifteen items in order of priority, including those items most likely to ensure survival.

It is important to remember that:

- You must reach a consensus regarding the ranking given to each item.
- “Consensus” means that each member of the subgroup agrees to the plan, at least to some degree. Coercion and methods of conflict avoidance such as averaging, voting, and “horse-trading” are not recommended.
- The subgroup may organize as it wishes to obtain the best results.

The subgroup has forty-five minutes in which to complete this task.

Group Ranking

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
- 10.
- 11.
- 12.
- 13.
- 14.
- 15.

WRECK SURVIVORS POSSIBLE SOLUTIONS SHEET

There is no single, correct solution regarding the priority listing. What is important is the coherence between the *strategy for survival* adopted and the priority of items to achieve that objective. The key is to decide on an objective or strategy before taking action (such as swimming to the yacht) or engaging in “tactics.” Tactics are the actions specifically planned to carry out a strategy. If clarity on objectives is not achieved at the beginning, the group is unlikely to produce a list that will achieve any particular objective.

Some possible group strategies, and the different lists that result, are as follows:

Attempt to be rescued. This strategy requires attracting the attention of potential rescuers who may have heard the MAYDAY transmission, who may be concerned with lack of news from the yacht, or who may be passing by the island. The items of higher priority in this list would be those that indicate the presence of survivors on the island and that attract attention from the sea or air. For instance, the mirror, the binoculars, and signal flares (an added item), which are available on almost any vessel or lifeboat, would be most important to retrieve.

Leave the island. This strategy might include using an inflatable boat or a makeshift raft and sailing from island to island until reaching one that is inhabited or until reaching the yacht’s original destination. In this scenario, the priority items would be an inflatable boat and/or the tools and materials to build a raft (from wooden planks or tree trunks), as well as navigational instruments such as nautical charts, a compass, bed sheets and ropes to manufacture sails, water tanks, etc.

Continue on vacation. The island seems hospitable, food and rainwater are available if harvested, and the climate is mild. The decision could be to leave things as they are or to postpone the decision until a later date. In this case, those items that would provide food and shelter and make life most comfortable and enjoyable would have greatest priority. Such items might include mosquito netting, canned food, cooking pots, books, and so on.

■ **VALUES, VISIONS, AND MISSIONS: USING PERSONAL STRATEGIC PLANNING**

Goals

- To introduce the participants to the strategic planning process as it can be applied in their own lives and careers.
- To offer the participants an opportunity to explore and define their individual directions in terms of life and career issues.
- To help each participant define his or her personal values and create a personal vision statement and a mission statement.
- To offer the participants a chance to give and receive feedback about their values, their vision statements, and their proposed mission statements.

Group Size

Any number of subgroups of three participants each. If necessary, one or two subgroups may have two or four members each.

Time Required

Approximately one and one-half to two hours.

Materials

- A copy of the Values, Visions, and Missions Work Sheet for each participant.
- A pencil for each participant.

Physical Setting

A room large enough so that the subgroups can work without disturbing one another. Each subgroup should have chairs and a table (or movable desks). If tables or desks are not available, the facilitator may distribute clipboards or other portable writing surfaces.

Process

1. The facilitator introduces personal strategic planning as an adaptation of strategic planning for organizations. Each participant is given a pencil and a copy of the Values, Visions, and Missions Work Sheet and is asked to read Parts 1 and 2. After all participants have finished reading, the facilitator leads a discussion about Parts 1 and 2, ensuring that the participants understand the basic process of personal

strategic planning as well as the terms “values,” “vision statement,” “mission statement.”

(Twenty minutes.)

2. Subgroups of three members each are formed. Each participant is instructed to work individually to complete Parts 3, 4, and 5 of the work sheet. (Approximately twenty minutes.)
3. After all participants have completed Parts 3, 4, and 5, the facilitator invites the members of each subgroup to share their values, vision statements, and mission statements and to ask for feedback on the consistency among these components and whether their mission statements meet the criteria listed in Part 5. *The facilitator emphasizes that all sharing is to be done on a voluntary basis: participants may share as much or as little as they wish.*

(Thirty minutes).

4. The participants are instructed to complete Part 6 of their work sheets.
(Five to ten minutes.)
5. The facilitator summarizes the initial stages of the planning process (Parts 3 through 6 of the work sheet), outlines the subsequent steps of the process (setting specific goals and developing strategies to achieve those goals, as described in Part 7), briefly reviews the tips in Part 8, and encourages the participants to establish goals and strategies on their own after they leave the training session. (Five to ten minutes.)
6. The facilitator leads a concluding discussion by asking questions such as the following:
 - What was it like for you to write your values, vision statement, and mission statement? What was it like to share them with others?
 - How did your subgroup discussion help in the process of creating a final mission statement?
 - What have you learned about yourself? What have you learned about personal strategic planning? What have you learned about the importance of sharing your vision and mission statements with others?
 - What will you do differently in your personal or professional life now that you have completed this activity?
 - How will you follow up on your vision and mission statements to continue the process of personal strategic planning? What are your plans for sharing your vision and mission statements with significant others?

(Fifteen minutes).

7. The participants are encouraged to review their values, vision statements, and mission statements from time to time and to make adjustments as necessary. The

facilitator again emphasizes the importance of developing goals and strategies after the training session and reminds the participants of the first item in Part 2 of the work sheet: “Strategic thinking is an ongoing process, not something you do once and then abandon.”

(Five minutes.)

Variations

- At the conclusion of the activity, the facilitator may invite the participants to post their final mission statements and to review the posted work.
- The work sheet may be completed by an individual working alone or by two partners who provide feedback and help each other.
- Posters with vision and mission statements may be prepared and displayed as examples.
- The process may be extended using Part 7 of the work sheet. As feedback can be an important part of goal setting, the facilitator may invite the participants to share some of their goals in their subgroups.
- If this activity is used with an ongoing work group. Personal mission statements may be discussed in light of the team’s mission or the organization’s mission.

Submitted by Chuck Kormanski.

VALUES, VISIONS, AND MISSIONS WORK SHEET¹

PART 1: Definition of Personal Strategic Planning

Personal strategic planning is the process by which you create a vision of your future and then determine specific steps to take to achieve that future. The process begins with clarifying *values*, writing a *vision statement*, and then developing a *mission statement*. Definitions of these terms are as follows:

- *Values*: “Concepts, principles, or standards that drive one’s decisions and actions.” Examples of values are honesty, persistence, dependability, self-sufficiency, and faith.
- *A vision statement*: “A statement of three or four sentences describing a desired future not a predicted future.” Here is an example of a vision statement (stated as if the vision has already been achieved, so that it is positive and powerful): “I am a person who is peaceful and an example to others of that peace, which comes from faith in God. I am considered to be an inspirational teacher of great integrity. I lead a simple life style that includes plenty of time for myself, my family, and my friends as well as service to others.”
- *A mission statement*: “A succinct, easy-to-remember statement that provides direction for one’s life.” Here is an example of a very short mission statement developed from the sample vision statement quoted above: “I am committed to living in accordance with my faith in God, maintaining a happy marriage, and being a loving and supportive parent. In my professional life, I seek to empower high school students by providing quality teaching while adhering to my religious principles. I want to live a simple life style.” Note that mission statement may be lengthier if desired, but brevity is important.

During this process it is critical to ensure consistency between values, the vision statement, and the mission statement. If these three components are not consistent, it is not possible to devise a workable plan.

Notes:

¹ The process of personal strategic planning described in this work sheet is based on *Shaping Your Organization’s Future: Frogs, Dragons, Bees, and Turkey Tails* by T.M. Nolan, L.D. Goodstein, and J.W. Pfeiffer, 1993, San Diego, CA: Pfeiffer & Company.

PART 2: Personal Strategic Planning Principles

Here are some principles to keep in mind while doing personal strategic planning:

1. Strategic thinking is an ongoing process, not something you do once and then abandon. Therefore, the process allows you to adapt to change.
2. Change is a given, not a choice. The choice you have is whether or not you want to influence the change.
3. You cannot predict the future, but you can influence it by creating a vision statement.
4. The future is not what it used to be. At one time, the immediate future looked very much like the present. Today change is so rapid that even the immediate future can be very different from the present.
5. There are no permanent solutions, only temporary one.
6. Any opportunity you fail to take may never come your way again.
7. Decision making includes action.
8. You cannot do everything at once.
9. The most difficult decision you make today will not affect you until tomorrow. A strategic decision will not have a major impact on today's activities, but it will place you in a position of leverage whereby you can influence tomorrow's activities.
10. Without a vision of the future, a person becomes directionless.

Notes:

To collect information to be used in creating your vision and mission statements, write answers to the following four questions:

- ² Your “distinctive competency” is the quality or attribute that distinguishes you from other people and makes you unique. You might want to think of it as your most significant characteristic, skill, or ability.

PART 4: Creating Your Vision Statement

How would you like to see yourself three to five years from now? Your next task is to write a statement of what you envision for yourself.

Ford and Lippitt (1988) describe how to approach the process of creating a vision statement:

While working on your vision, try to suspend your internal critic as well as any inclination to be modest or prudent. At this point don't concern yourself with whether your vision is achievable.

This is a time to entertain notions of greatness, to reach as far as your desires will take you.(p.8)

Use the space below to describe your desired future in general terms.
Write about three or four sentences.

PART 5: Writing Your Mission Statement, First Draft

- Before you begin work on a mission statement, review the following ten criteria and make notes about items to include in your own statement.

Ten Criteria for Evaluating Mission Statements³

Your mission statement should:

1. Be clear and understandable to significant others.
2. Be brief enough to keep it in mind.
3. Specify your career direction.
4. Include a short description of your preferred life style.
5. Reflect your distinctive competency
6. Be broad enough to allow flexibility in implementation-but not so broad that it lacks focus.
7. Serve as a guide for making personal and career decisions.
8. Reflect your values, beliefs, and philosophy.
9. Be achievable (challenging and realistic).⁴
10. Serve as a source of energy for you.

³ From *Applied Strategic Planning: A Comprehensive Guide* (p. 188) by L.D. Goodstein, T.M. Nolan, and J.W. Pfeiffer, 1992, San Diego, CA: Pfeiffer & Company. Adapted by permission.

⁴ Think of your mission statement as your vision made realistic.

- Write a rough draft of your mission statement, keeping in mind the ten criteria on the previous page.

PART 6: Writing Your Mission Statement, Final Draft

Now write a final draft of your mission statement.

PART 7: Devising Goals and Strategies to Achieve Your Vision

After you have written the final draft of your mission statement, you are ready to develop goals and strategies.

A goal is an objective that leads to achieving some portion of your vision. It must be consistent not only with your values and your mission statement but also with any other goals that you set.

A goal is much more specific than your vision or even your mission statement. For example, if your vision includes “Having a successful career in graphic design,” then one of your goals may be “In the next two years, complete (with a final grade of at least B) the one-unit course entitled ‘Photoshop for Publications’ through the University of California at San Diego Extension.”

Note the details included in the goal: a time limit (in the next two years), a criterion for success (with a final grade of at least B), the amount of credit earned on completion of the course (one unit), the specific title of the course (“Photoshop for Publications”), and the institution offering the course (the University of California at San Diego Extension).

It is easy to see how realizing even one portion of your vision may required setting many such goals.

Strategies

A strategy is a method or technique for achieving a goal. Just as realizing your vision will require setting a number of goals, achieving a single goal may require using a number of strategies. For example, achieving the goal of attending the course in photoshop may necessitate such strategies as changing job hours to accommodate course work, making arrangements to carpool to and from the course with a coworker, arranging for a babysitter to watch the children so that evening classes can be attended, and so on.

The structure on the following page will help you to become acquainted with the procedure of setting goals and devising strategies to achieve those goals. For the purpose of this activity, select three goals in connection with realizing some component of your vision and outline the strategies necessary of achieving those goals. (*Note:* To achieve all components of your vision, you will need to repeat this procedure for each component.)

Goal

Strategies

PART 8: Getting the Most from Personal Strategic Planning

The following are tips for getting the most from personal strategic planning:

- Keep reviewing your vision and mission statements from time to time. Make alterations as necessary.
- If your picture of a desired future changes, remember to change your vision and mission statements and then your goals and strategies as necessary. Be willing to adjust your vision and mission statements (and associated goals and strategies) if you need/want to.
- Keep your vision and mission statements posted in your office, in a computer file, on your refrigerator or in any other prominent place where you will see them frequently.
- When you are making an important life or career decision, refer to your vision and mission statements and make sure that the decision you are contemplating is consistent with your intended direction.
- Share your vision and mission statements with significant others and ask for feedback about ways to achieve your vision. If you uncover inconsistencies between your vision and what significant others want/expect from you, work on those inconsistencies so that they do not interfere with meeting your goals.
- Keep on the lookout for opportunities that will help you reach your goals. This many include picking up related books and reading them, attending seminars and workshops, joining groups or organizations, and so on.
- Check on your progress toward goals at least every three months.

Notes:

REFERENCES

- Ford, G.A., & Lippitt, G.L. (1988). *Creating your future: A guide to personal goal setting*. San Diego, CA: Pfeiffer & Company.
- Goodstein, L.D., Nolan, T.M., & Pfeiffer, J.W. (1992). *Applied strategic planning: A comprehensive guide*. San Diego, CA: Pfeiffer & Company.
- Nolan, T.M., Goodstein, L.D. & Pfeiffer, J.W. (1993). *Shaping your organization's future: Frogs, dragons, bees, and turkey tails*. San Diego, CA: Pfeiffer & Company.

■ THE RIVER OF CHANGE: EXPLORING COPING SKILLS

Goals

- To review changes experienced by the participants during the past year.
- To introduce Bridges' view of the change process.
- To explore the process of individual change by identifying change events, accompanying emotions, and typical patterns of coping.
- To anticipate changes the participants may experience in the next year and how better cope with them.

Group Size

Twelve to fifteen participants.

Time Required

One and one-half to two and one-half hours.

Materials

- A copy of the River of Change Lecturette for each participant and the facilitator.
- A sheet of newsprint flip-chart paper for each participant.
- Several felt-tipped markers of different colors for each participant.
- A newsprint flip chart and felt-tipped markers for the facilitator.
- Masking tape for posting newsprint.

Physical Setting

Table space and a chair for each participant. Enough wall space to post the pictures created by the participants.

Process

1. The facilitator states that the activity will explore the process of change and is divided into two parts: in the first part, individuals will work on their own; in the second part, they will work in pairs or trios.

- | Change | Emotions | Coping Mechanisms |
|--------|----------|-------------------|
| | | |

- 493

- What emotions did most people experience?
- What techniques did most people use to cope with the changes?

(Ten minutes.)

6. The facilitator distributes a copy of the River of Change Lecturette to each participant and delivers it orally. (Five minutes.)
7. The facilitator solicits the participants' responses to the River of Change Lecturette and Bridges' view of change in light of what participants have reported about emotions and coping mechanisms. (Five to ten minutes.)
8. Participants are directed to form pairs or trios. The facilitator tells them to discuss the following (and posts the list on newsprint where all can see it):
 - What patterns they see in their rivers in terms of how they coped with their changes;
 - How they feel about those patterns;
 - What they would like to change about those patterns; and
 - How each of them can cope more effectively with an upcoming change.

(Fifteen minutes.)

9. The total group is reassembled, and the partners/triads report their common patterns and what they would change about those patterns. The facilitator records this information on the flip chart, as follows:

Coping Mechanisms	Common Patterns	Intended Changes

(Ten to fifteen minutes.)

10. The facilitator leads a discussion of the second half of the activity. The following questions may be used:

- What seems to be the most common pattern in coping with change? Which patterns seem to be unique? What does that suggest to you?
- What changes in coping mechanisms were suggested by most people? How do you react to that?
- What did you learn about yourself in this activity?
- What did you learn about change in this activity?
- Which coping mechanism do you predict will be the most helpful to you in the next year? How can you support yourself in using it?

(Fifteen minutes.)

Variations

- With intact work groups or with people who work in the same part of an organization, the entire activity can be completed in small groups. Only work-related changes are used.
- As a final step, each participant can create a written action plan for how to cope with an anticipated change.
- As a final step, the participants may choose others who will be experiencing similar changes and contract to provide support and encouragement to one another. (Ten to fifteen minutes.)
- Participants can use the metaphor of a bridge instead of a river to focus on how best to make the transition to change. They can be asked to draw the “ending” as one end of the bridge, the “beginning” as the other end of the bridge, the river as the emotions experienced in the change, and the bridge span as the coping mechanism.

Submitted by Mary Sue Barry.

RIVER OF CHANGE LECTURETTE

When people are faced with adjusting to change, a crisis often develops. For some individuals, change is a challenge; for others, it is a threat. Even changes we choose, such as marriage, having children, returning to school, and taking a new job, require some adaptation. One set of circumstances is ending while another set is beginning.

The Chinese language has no one symbol for change. It requires two characters: one is the symbol for opportunity, the other is the symbol for danger or risk. All change, personal or organizational, carries both opportunity and risk.

The change cycle, as described by William Bridges begins with endings. Endings are followed by a transition period, which can be a difficult time. We must let go of the past, as it no longer exists, and the future is uncertain. The final stage of change is the new beginning. We are energized by the future and move forward with anticipation of positive outcomes.

As people progress through the cycle of change, they experience the emotions associated with the grieving process. Denial, disbelief, anger, anxiety, confusion, and bargaining lead to fear, uncertainty, and feeling lost and unattached, which turn into enthusiasm, hope, interest, assimilation, energy, and a sense of belonging.

No one change happens in a vacuum; as we are asked to change at work, there are changes happening in our personal lives. Most of us can deal with a few minor changes at the same time, but as the number of changes we face builds up, our tolerance and ability to adapt gives out. It is much like a house of cards. Things are going along fine until a card is placed on top and the structure collapses.

We may think that others are better or worse at coping with change in general. It is important to remember that each of us has our own frame of reference—how we view the world, how we make judgements, and how we place value on things. The challenge is to find coping mechanisms that can help us perceive and deal with the changes in our lives. One way of doing that is to look at past changes and examine how we perceived them and how we coped with them. A pattern will surface as we examine several past changes in our lives. By examining our patterns and discussing them with others, we can take the first step in improving our ability to deal with change.

Based on William W. Bridges (1991), *Managing Transitions: Making the Most of Change*. Reading, MA: Addison-Wesley.

■ IDEAL WORK PLACE: CREATING A TEAM VISION

Goals

- To align and energize team members through the process of visioning together.
- To encourage team members to create a collective vision of an ideal work scenario.
- To offer team members an opportunity to set in motion the actions needed to achieve that vision.

Group Size

All members of an intact work team. This activity is best used with a team that has prior team-building experience.

Time Required

Approximately two hours.

Materials

- One copy of the Ideal Work Place Vision Sheet for each team member.
- A pencil for each team member.
- A clipboard or other portable writing surface for each team member.
- An audiotape player and a tape of relaxing music for step 2.
- A newsprint flip chart.
- A felt-tipped marker for each team member and one or more for the facilitator.
- Masking tape for posting newsprint.

Physical Setting

A room large enough for the team members to work independently to create newsprint posters (see step 7). Comfortable, movable chairs should be provided.

Process

1. The facilitator explains the goals of the activity and then introduces the process as follows:

“You will be imagining a time when everything is perfect for you in your work place. Before we begin, we will set up an imaginary ‘Later Box’ outside the room where you can place any distracting thoughts, skepticism, or negativism. They’ll be safe there, and you can pick them up later. In a few moments, I’ll be asking you to close your eyes to eliminate any visual distractions while you are seeing the future in your ‘mind’s eye.’ Now is the time to go ahead and deposit distracting thoughts in the ‘Later Box.’ If at any time during this visioning process you become uncomfortable, you may open your eyes and disengage. This vision is yours personally, you are in control of it, and you need not share anything later that is too private.”

(Five minutes.)

2. The facilitator starts the relaxing music and leads the team members through the following visioning process: [*Note to the facilitator:* The length of your pause after each question will vary, depending on the depth of the question. Pauses are never to be less than three seconds or more than forty-five seconds.]

“Get in a comfortable position, loosen any restrictive clothing, uncross your arms and legs, and place your feet on the floor. Allow your eyes to close easily and comfortably. Begin by paying attention to your breathing, noticing how it slows as you become more comfortable. Breathe in, clear your mind; breathe out, relax.

“Set the scenario in the future, five to ten years from now; this will allow any limitations you see today to be gone. Imagine your work situation. Everything is perfect, the ideal situation you want for yourself. Remember that there are no rules or limits to what you can imagine.

“It’s morning. One of those days when you wake up filled with eager anticipation. You’re excited, just the way you might feel if you were getting on a jet bound for vacation at your ideal resort. The day feels great! Your life is great!

“You have arrived at the place where you conduct your business, which is the ideal work place you have hoped for and worked with others to create. As you walk around, you notice some things. Look around this ideal environment. What do you see? What colors surround you? What sounds do you hear? What do you smell? How does the environment feel? What else makes the environment ideal for you? Notice as many details as you can.

“You see a letter from a highly respected organization in your profession. The letter says that you are being recognized as having created the most ideal work situation in your industry. You have been asked to give a speech at the industry’s national meeting. You begin to think about what to say. What will you say about your customers? Who are your customers? Where are they from? How many customers do you have? How did they find out about you? How did you discover what your customers needed? What do your customers want that your ideal organization provides? What are your products and services? What do your customers typically say about your products or services?

“Now you walk around the work areas and mingle with some of your colleagues. Who is working with you? Notice what people are doing. How do they communicate in this ideal organization?

“Picture one of your meetings. What is happening? What’s your sense of how people are feeling?

“What exactly do you do in your perfect organization? What is your work? Is it full-time or part-time work? What is your level of participation? What are some areas of growth you have achieved in your ‘safe’ work environment?

“What gives you great joy and a deep sense of fulfillment in your life? How does your work blend with this? How do you contribute to the success of your organization?

“You see yourself strolling through your work place, feeling good. Scan the environment for any features you may have missed—sights, smells, etc. . . . Note them and realize how they enrich your work life, your whole life. See if you can identify the key elements that contribute to your organization’s success. . . . It’s a great organization, isn’t it?

“In a moment I will ask you to return to the present. Remember what you have visualized because you will be writing about your images. Continue to hang on to the pleasant feelings you have just experienced. . . . Now move your fingers and feet, stretch your legs, and move your shoulders. . . . Now, whenever you are ready, open your eyes and come back.”

(Twenty minutes.)

3. The facilitator stops the music and gives each team member a copy of the Ideal Work Place Vision Sheet, a pencil, and a clipboard or other portable writing surface. (Five minutes.)
4. The team members are asked to spend thirty minutes completing their vision sheets. The facilitator clarifies that they will not be asked to turn in their completed sheets to anyone. While the members are writing, the facilitator enforces silence to allow the creative process to unfold. (Thirty minutes.)
5. The facilitator calls time and encourages individuals to share whatever they choose from their vision sheets. Using separate sheets of newsprint, the facilitator records and posts ideas under the appropriate handout headings: Environment, Market, Products and Services, People and Functions, Individual Development, and Keys to Success. (Twenty minutes.)
6. Each individual is given a felt-tipped marker and is asked to set a priority for each idea based on how much it contributes to the “ideal work place.” Newsprint ideas are to be marked “H” for “high priority,” marked “L” for “low priority,” or left blank to indicate “not a priority.” Once all members have marked all ideas, the team may decide to weed out some ideas by using criteria such as “least effort, time, money required,” “greatest return for effort,” “will strengthen the team,” or “will help the organization achieve its mission.” At the end of the process, the members

should have what they consider to be a manageable number of prioritized ideas. (Twenty minutes.)

7. The facilitator asks for volunteers to write goal statements for the six subjects that serve as handout headings, based on subjects in which they have high interest. (If no one is interested in a particular subject, that subject can be eliminated. If more than one member is interested in a single subject, those members may form a subgroup to write the statements. If the team has very few members, one or more members may take more than one subject.) Each member/subgroup is given several sheets of blank newsprint on which to write the goal statement(s) as well as the newsprint sheets with ideas for that member's/subgroup's chosen subject. The facilitator clarifies that *a goal statement must be achievable and written in specific, measurable terms*. The following examples are offered:

- *Too vague:* The team will become more knowledgeable about computer word processing.
- *Specific and measurable:* By June 1 of this year, all team members will have taken a locally offered course in WordPerfect 6.0. By September 1 of this year, all team members will have used WordPerfect 6.0 to complete at least six reports or other in-house documents for distribution.

(Twenty minutes.)

8. The facilitator asks the members to stop their work and share their goal statements with the team. (Ten minutes.)
9. The facilitator encourages the team members to take ownership of the goal statements and to take action immediately, if possible. He or she then conducts a debrief of the activity with questions such as the following:
 - What parts of the activity were personally meaningful for you?
 - What parts of the activity were easier or more difficult than others? How do you account for that?
 - How have your perceptions of your values changed as a result of this activity?
 - What have you learned about the visioning process?
 - How can what you have learned help you in your pursuit of a satisfying work life? How can it help your team? Your organization?

(Ten to fifteen minutes.)

Variations

- The team members may agree to conduct this visioning process on a regular basis as on ongoing segment of team building.
- Following step 8, the team members may be asked to determine what values the organization needs to have in order for the vision to become a reality.

Submitted by M.K. Key, Glenn Head, and Marian Head.

IDEAL WORK PLACE VISION SHEET

Instructions: Record in as much detail as possible everything you experienced when you imagined your perfect organization. The following questions are organized in the same sequence as the guided imagery activity you just completed. Write down everything you can remember about each question or area that is important to you. This work sheet is for your use only; you need share only those items you choose to share.

Environment

1. When you walked into your place of business, what did it look like? What colors did you see?
2. What sounds did you hear?
3. What did you smell?

4. How did the environment feel?

5. List anything else you noticed that made the environment perfect for you.

Market

6. Who were your customers?

7. Where were they located geographically? Where were they from?

8. How many customers did you have?

9. How did new customers find out about you?

Products and Services

10. How did you discover what was really needed by your customers?

11. What did your customers need that your organization provided? What were your products and services?

12. What were some of the things customers said about your products or services?

People and Functions

13. Who was working with you?

14. What were the people in your organization like? What did they do?

15. How did people communicate in the organization? What typically happened in your meetings?

Individual Development

16. What exactly did you do in your organization? What was your work?

17. What was your level of participation in the organization?

18. What were some of the areas of growth you achieved in your work?

19. What did you envision that gave you great joy and a deep sense of fulfillment in your life?

20. How did your work blend with this?

21. How did you contribute to the success of your organization?

Keys to Success

22. What are the keys to the success of your organization?

23. Is there anything else you wish to record about this experience?

■ AWARD CEREMONY: PRACTICING THE SKILL OF PLANNING

Goals

- To illustrate the need to plan adequately.
- To acquaint participants with three types of plans and a six-step planning process.
- To offer participants an opportunity to practice creating one type of plan.
- To offer participants a chance to observe people's different styles of analyzing data and of drawing conclusions from data.

Group Size

Fifteen to twenty-four participants, divided into subgroups of five or six members each.

Time Required

Approximately two hours.

Materials

- A copy of the Award Ceremony Theory Sheet for each participant.
- A copy of the Award Ceremony Situation Sheet for each participant.
- A newsprint flip chart and several colors of felt-tipped markers for each subgroup.
- A roll of masking tape for each subgroup.

Physical Setting

A room large enough for the subgroups to work without disturbing one another. The subgroups should be as far apart as possible to minimize the disturbance from brainstorming and discussion. Movable chairs must be provided, and each subgroup should have plenty of wall space for posting newsprint. (If available, separate rooms may be used for the subgroup work.)

Process

1. The facilitator distributes copies of the Award Ceremony Theory Sheet and asks the participants to read it. After everyone has read it, the facilitator elicits and answers questions about its content. (Ten to fifteen minutes.)

2. After telling the participants that they will be completing a planning task, the facilitator divides them into subgroups of five or six members each. The facilitator gives each subgroup a newsprint flip chart, several colors of felt-tipped markers, and masking tape for posting newsprint. Each subgroup is asked to choose (1) a *recorder*, who will make notes on newsprint while the subgroup completes its upcoming task, and (2) a *leader*, who will keep time and will use the recorder's notes to report later on the subgroup results. The facilitator then distributes copies of the Award Ceremony Situation Sheet and reviews the task with the participants, clarifying that each leader's report to the total group will be a presentation of the *implementation plan*. The facilitator also emphasizes that there is no "right" or "wrong" solution. (Five minutes.)
3. The subgroups are told that they have one hour to complete their plans and are asked to begin. (One hour.)
4. After ten minutes the facilitator interrupts the subgroups to check on their progress and answer questions. After questions have been answered, the subgroups are told to resume their work. (Five minutes.)
5. After one hour of planning time, the facilitator reassembles the total group and asks the leaders to take turns presenting implementation plans. After each presentation the facilitator encourages the participants to give feedback. (Ten to twenty minutes.)
6. The facilitator leads a concluding discussion based on the following questions:
 - How pleased are you with your subgroup's plan? How would you rate the quality of that plan compared to others that you have had a part in creating?
 - How would you describe your subgroup's experience in using the six-step process for planning? How was the process similar to planning experiences that you have had in the past? How was it different?
 - How did the different members of your subgroup approach the task? How did they analyze the data on the situation sheet? How did they come to conclusions based on the data? What can you generalize about how people approach planning?
 - What have you learned about the role of planning in completing tasks?
 - How can you use one or more of the three types of planning in completing future tasks? How can you use the six-step process?
 (Twenty minutes.)

Variations

- The subgroups may be asked to determine ways to monitor the progress of the ceremony as it takes place as well as ways to evaluate the ceremony afterward.

- The facilitator may create a different situation sheet that reflects a topic or event of particular interest to the participant group.
- If working with ongoing teams, the facilitator may allow more time for the activity and ask the teams to create actual work-related plans after Step 6.
- If working with ongoing teams, the facilitator may focus the activity on developing standing or contingency plans instead of single-use plans.

Submitted by Robert William (Bob) Lucas.

AWARD CEREMONY THEORY SHEET

A crucial step in the success of any project is effective planning. Unfortunately, even though most people acknowledge this fact, they still fail to plan adequately. The result is often wasted time, effort, and money as well as unnecessary frustration and lowered morale for those involved.

Frequently the failure to plan can be attributed to a lack of understanding about what is involved in planning. There are three common types of plans that can be developed and six steps to be followed in the planning process.

Types of Plans

The following paragraphs describe the three common types of plans: the standing plan, the single-use plan, and the contingency plan.

Standing Plan

A standing plan focuses on ongoing organizational situations and is used repeatedly and/or frequently. Plans involving policies, procedures, and rules fall into this category.

Policies. Policies are guides for effective decision making. They set parameters or boundaries for what is and is not allowed or acceptable, thereby allowing some flexibility. Examples include guidelines for standards of dress or scheduling of breaks/lunch.

Procedures. Procedures are sets of steps to be taken in given situations. They provide a model for consistency in completing tasks or activities. Examples are procedures for requesting annual leave, ordering supplies, or filing grievances.

Rules. Like policies, rules provide guidance. However, they are stronger than policies; they do not allow for flexibility in decision making. Examples are “No smoking on premises,” “An employee arriving late will be issued a formal warning the first time and have pay docked thirty minutes for each subsequent occurrence,” and “Everyone must wear a hard hat in construction areas.”

Single-Use Plan

A single-use plan is used once—or only a few times or infrequently—for unique or special situations. Single-use plans include programs, projects, and budgets.

Programs. Generally programs are large-scale plans that have their own objectives, policies, procedures, and budgets. An example is an education program to reduce the number of employee injuries on the job.

Projects. Projects are smaller-scale versions of programs. They consist of the same elements, but a project can be planned separately, often as one of the parts of a program.

For example, an education program to reduce on-the-job injuries might include a project for creating safety-related posters and displaying them throughout the organization.

Budgets. If well-executed and monitored, budgets are an excellent planning and controlling mechanism. They are important components of programs and projects. A budget is set for a specified period of time and is broken into specific categories of expenditure.

Contingency Plan

A contingency plan is used as needed when other plans fail or are not suitable. Frequently, unexpected events prevent people from following their originally planned course of action. For example, a person scheduled to train employees on safety tips might call on the morning of the training to say that he or she had been hospitalized the night before. In this case a contingency plan must be used.

The time to create a contingency plan is before something goes wrong. Some basic questions to ask in developing a contingency plan are as follows:

- What is the original goal?
- What could possibly go wrong in achieving that goal?
- What can be done to prevent anything from going wrong?
- If something does go wrong, what actions can be taken to minimize the impact?

The answers to the last question become the contingency plan.

Six-Step Process for Planning

The six steps that can lead to success in planning are as follows:

1. *Set goals.* Decide what short- or long-term outcomes are desired.
2. *Examine and evaluate.* Look at all the factors affecting the situation. Establish criteria for selecting acceptable actions.
3. *Identify alternatives.* List all possible alternatives for accomplishing the targeted goals. Consider the advantages and disadvantages of each option.
4. *Select the best alternative.* After reviewing options, select the one that best suits the targeted goals and meets the established selection criteria.
5. *Create an implementation plan.* Decide which resources (human and otherwise) will be required to accomplish the targeted goals, what the timetable will be for achieving milestones and final results, and how results will be measured and reported. Also assign responsibilities for various tasks.
6. *Monitor progress.* During implementation, progress must be monitored continually so that the plan can be adjusted if necessary to achieve the targeted results.

AWARD CEREMONY SITUATION SHEET

Using steps 1 through 5 of the six-step planning process, work with your subgroup to develop a single-use plan for the situation described below:

- You work in an organization that has a formal suggestion program. At the end of each calendar quarter, a ceremony is held to present awards to employees whose suggestions have been adopted and have benefited the company.
- You have been chosen to be a member of the committee that will plan the details of the award ceremony.
- Today is Monday, January 3.
- The award ceremony will take place on the last Friday of the calendar quarter.
- There will be fifteen honorees at the ceremony.
- In the past, the ceremonies have lasted approximately an hour and a half.
- The vice president of human resources will present awards and speak on behalf of the company president.
- The vice presidents of corporate communications and finance will attend.
- The supervisor of each person receiving an award will attend with that person.
- Each honoree will receive a plaque and a check.
- Your committee has a budget of \$1,000.
- The award checks do not come from your budget, but the plaques do. In the past, plaques have cost \$25 to \$45 dollars each.
- The ceremonies are generally held in the corporate dining room, which was designed for formal functions.
- Reservations for the corporate dining room are placed through an on-line computer-reservation software available to each department in the organization. The reservations are on a first-come, first-served basis, except in the case of the president or the board of directors, who have priority.
- An organizational dining-services group is available to assist in planning and serving meals. Costs are charged to departments.
- The dining-services group charges an average of \$16.95 per person for formal, sit-down luncheons.

- The dining-services group includes temporary servers who are on call for formal functions. Each receives \$8.75 per hour, with a minimum of three hours guaranteed per event. At least three servers are needed for a group of twenty to twenty-five people.
- You are not limited to past ceremony protocol or planning.

■ INPUTS, PROCESS, OUTPUTS: IMPROVING SUPPLIER AND CUSTOMER SERVICE

Goals

- To familiarize participants with the phases of jobs: inputs, process, and outputs.
- To help participants identify the internal and external suppliers that make their production possible.
- To assist participants in determining how their internal and external suppliers can help them to do their jobs better.
- To help participants understand the needs and requirements of their internal and external customers.
- To assist participants in improving service to their internal and external customers.

Group Size

As many as twenty-five participants, composed of all members of several ongoing work teams.

Time Required

One hour and fifty minutes.

Materials

- Two copies of the Inputs, Process, Outputs Form A: What I Need from My Suppliers for each participant.¹
- Two copies of the Inputs, Process, Outputs Form B: What My Customers Need from Me for each participant.¹
- One copy of the Inputs, Process, Outputs Discussion Sheet A for each participant.
- One copy of the Inputs, Process, Outputs Discussion Sheet B for each participant.
- A portable writing surface for each participant.
- A pencil for each participant.
- A newsprint flip chart and a felt-tipped marker.

¹ It is a good idea to have a number of extra copies on hand in case the participants need more than two each.

Physical Setting

A room large enough for each team to work without disturbing the others. Movable chairs should be provided.

Process

1. The facilitator announces the goals of the activity and explains the “systems” view of a job, as follows:
“All jobs consist of inputs, process, and outputs. *Inputs* come from suppliers, either inside or outside the organization. These inputs are the information, policies, parts, products, supplies, and services that workers need to do their jobs. Workers use what is supplied to complete the *process* of their work, which consists of not only the activities and tasks they perform, but also any value added from their efforts. *Outputs* represent the workers’ finished goods or services, which are intended to meet the needs of customers inside or outside the organization.”
2. The facilitator draws a simple flow chart on newsprint, diagraming inputs and a process that results in outputs (see Figure 1). Then the facilitator asks participants for examples of inputs, process, and outputs and lists contributions on the flip chart. (Ten minutes.)



Figure 1. The “Systems” View of a Job

3. The facilitator gives each participant two copies of the Inputs, Process, Outputs Form A: What I Need from My Suppliers, a clipboard or other portable writing surface, and a pencil and then reviews the handout instructions. The facilitator emphasizes that a worker must receive products or services from suppliers before completing the process of producing for customers. After reviewing the handout instructions, the facilitator asks the participants to work independently to complete the form. (Fifteen minutes.)
4. Each participant is given two copies of the Inputs, Process, Outputs Form B: What My Customers Need from Me. After reviewing the handout instructions, the facilitator asks the participants to work independently to complete the form. (Fifteen minutes.)
5. The facilitator instructs the individual work teams to meet separately in different parts of the room. Each participant is given a copy of the Inputs, Process, Outputs Discussion Sheet A. The members of each work team are asked to compare their responses on *Form A* and to discuss and jot down answers to the questions on *Discussion Sheet A*. (Twenty minutes.)

6. The facilitator distributes copies of the Inputs, Process, Outputs Discussion Sheet B and asks each team to complete the same procedure using *Form B and Discussion Sheet B*. (Twenty minutes.)
7. The facilitator reconvenes the total group and leads a discussion based on the following questions:
 - What was easy about examining what you need from your suppliers? What was difficult about it?
 - What was easy about examining what your customers need from you? What was difficult?
 - What connections might there be between what you need from your suppliers and what your customers need from you? What impact do your suppliers have on the products or services that you provide to your customers?
 - How can you use what you have learned to help your suppliers provide you with better service? How can you use what you have learned to provide your own customers with better service?(Fifteen minutes.)
8. Each team is urged to follow up on this activity by devising action plans for improving the products or services provided by suppliers as well as the products or services provided for customers. The facilitator suggests contacting and interviewing all customers (or a representative sample of customers) and verifying what they need and what would delight them. In addition, the facilitator assists the team members in making arrangements for a follow-up session to discuss their action plans and the results of their interviews. (Ten minutes.)

Variations

- Each participant may be asked to diagram the inputs, process, and outputs for his or her own job.
- Each team may be asked to diagram the inputs, process, and outputs for its main functions.
- After Step 8 the teams may continue the activity by creating the action plans described in that step.
- The activity may be used as the focus of a team-building session for a single team.

RECOMMENDED READING

Juran, J. (1988). *Juran on planning for quality*. New York: The Free Press/Macmillan.

Submitted by W. Norman Gustafson.

INPUTS, PROCESS, OUTPUTS FORM A: WHAT I NEED FROM MY SUPPLIERS

Instructions: In the first column, under “Internal,” list all of your internal suppliers—the people or units inside your organization that supply you with information, policies, parts, products, supplies, services, etc., that you need to do your job. Under “External,” list all of your external suppliers—the ones outside your organization.

Next complete the second column by listing the products or services that your suppliers furnish. In the third column, list any needs or standards you have for what is supplied. In the last column, describe what your suppliers could do to make your job easier or help you produce a better product or service—even if you are not in a position to dictate or negotiate what they do.

My Suppliers	Products/Services They Provide	My Needs and Standards	They Could Help Me If They:
<i>Internal</i>			
<i>External</i>			

INPUTS, PROCESS, OUTPUTS FORM B: WHAT MY CUSTOMERS NEED FROM ME

Instructions: In the first column, under “Internal,” list all of the people or units inside your organization for whom you supply products or services. Under “External,” list all of your customers who are outside your organization. Try to group similar types of customers together.

Next complete the second column by listing the products or services that you provide for your customers. In the third column, list your customers’ basic requirements for each product or service provided. In completing the fourth column, think about and list any requests that your customers have made or implied. To fill in the last column, use your imagination and list what might delight your customers.

My Customers	Products/Services I Provide	Customers’ Basic Requirements	Customers’ Request	What Might Delight My Customers
<i>Internal</i>				
<i>External</i>				

INPUTS, PROCESS, OUTPUTS DISCUSSION SHEET A

1. What are our perceptions of our suppliers?
2. How often is the delivery correct? Incorrect? Timely? Delayed? How are we affected by these conditions of delivery?
3. How do we compensate for problems in the quality of products or services from suppliers?
4. How could we work more closely with our suppliers?
5. What conditions could we require of our suppliers?
6. What are our suppliers capable of doing that they are not doing now?
7. From which suppliers will we need more cooperation for quality improvement? How can we obtain it?

INPUTS, PROCESS, OUTPUTS DISCUSSION SHEET B

1. What are our perceptions of our customers?
2. How often is our delivery to customers correct? Incorrect? Timely? Delayed? How are customers affected by these conditions of delivery?
3. How do our customers have to compensate for problems in the quality of products or services we provide?
4. How could we work more closely with our customers?
5. What conditions could our customers require of us?
6. What are we capable of providing that we are not providing now?
7. With which customers do we need to cooperate more? How can we do that?