

A Two-Hour Leadership Laboratory

Simulation for Supervisors
at McDonnell-Douglas

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The Management Development staff at Douglas-MSSD (now McDonnell-Douglas) was asked to design a short workshop for the closing session of a basic supervisor's training course. This article describes the resulting two-hour leadership laboratory, which we feel is worth sharing.

The basic objective of this laboratory is to create the conditions for (1) increased self-insight as to leadership attitudes, beliefs, and behavior; and (2) understanding of the conditions which cause leadership styles to inhibit or facilitate group effectiveness. A significant portion of the laboratory

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is designed to allow participants to learn from an analysis of their own leadership or management experiences in performing the laboratory task and to integrate this learning with their on-the-job situation.

The lab has four primary components: (1) the task experience (55 minutes); (2) the lecture (20 minutes); (3) discussion and analysis of the task experience (30 minutes); and, (4) integration with the real-life work situation (15 minutes).

The Task Experience

From 20 to 24 participants are divided into three groups at separate tables. A trainer/observer is assigned to each group to take notes and make observations during the game and to facilitate feedback during later discussions.

One of the trainers briefly introduces the task to the participants, handing each group a set of Lego Blocks, Rig-a-Jig, or Tinker Toys. He explains that the groups represent three "companies" in competition on an R&D incentive contract to build a "space tower." They will have 45 minutes for a Planning Phase in which to read instructions and accomplish the following:

- A. Organize the group in any way that seems most effective to them.
- B. Examine the three incentive charts to select optimum profit targets.

The first incentive chart is for cost and refers to the number of pieces used to build the tower. It shows a maximum profit of \$20,000 can be earned if 100 or less pieces are used. As more pieces are used, profit declines. No profit is earned if 150 to 160 pieces are used, and there is a loss of \$15,000 if 180 pieces are used.

The second incentive chart is for schedule and refers to the number of minutes used to construct the

tower. Profits range from \$45,000 if the tower is built in one minute or less, to no profit if building time is 5 to 8 minutes, to an eventual loss of \$50,000 if construction takes 10 or more minutes.

Performance which is represented on the third incentive chart, refers to the height in inches of the completed tower. \$30,000 profit can be earned for a tower 75 inches high, descending to no profit for a tower 45 to 50 inches high. There is a loss of \$50,000 if the tower is less than 45 inches.

Maximum profit to be earned is \$95,000 and it is possible to lose up to \$115,000. Obviously, the height of the tower and the construction time are a function of the number of blocks used. Thus, in order to maximize profit, the teams must make the appropriate trade-offs among the potential incentives and their respective emphasis towards the use of more or fewer blocks.

- C. Work out detailed construction plans preparatory to the Construction Phase. The design can be any configuration. The only requirement is that it stand long enough to be measured!
- D. Submit, in writing at the close of the Planning Phase, the types of organization chosen and the planned profit dollars selected from the three incentive charts.

Construction Phase

The Construction Phase then follows and lasts a maximum of 10 minutes. All companies start construction at the same time and race to construct a model according to their predetermined plans.

After completion of the Construction Phase, the results are tallied on the chalk board, and the winning group is announced.

A variety of techniques may be employed to add spice to the game. For example, Certificates of Achievement of a humorous nature may be awarded to each member of the winning team. Or, the losing team may be asked to buy the winning team a round of coffee. It is interesting to note that the introduction of such token "prizes" can add significantly to the intensity of the competition and to the participants' commitment to the simulation task.

Also, another variation is to ask privately certain participants to play various roles in the group, such as being extremely authoritarian in leadership style. This creates reactive behavior on the part of the group which is useful for feedback purposes (e.g.,

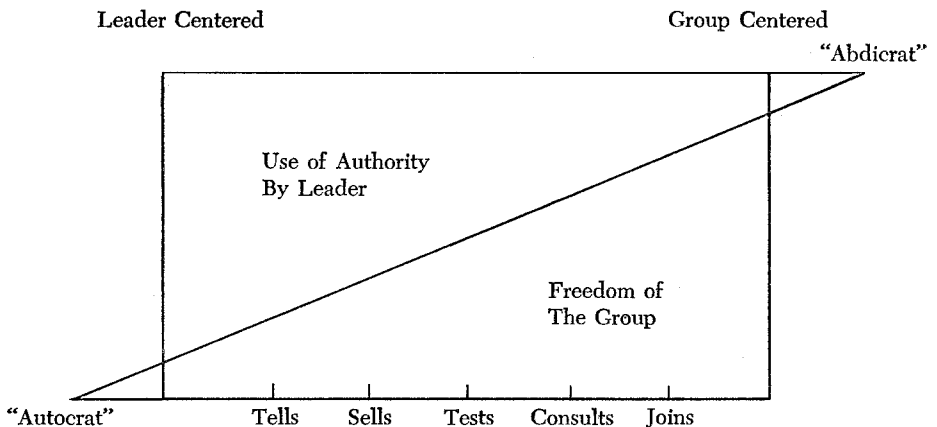
"How did you react when Bill . . .").

The Lecture

Following completion of the task, the groups combine for a 20-minute lecture on leadership given by one of the trainers.

We have based our lecture on Chapter 5 of "Leadership and Organization: A Behavioral Science Approach" by Robert Tannenbaum, Irving Weschler, and Fred Massarik (McGraw-Hill). The purpose of the lecture is to provide some "handles" for the participants to use when they discuss leadership as it existed in the task group and in analyzing their real-life leadership style.

Following is an outline of our leadership lecture:



II. DETERMINANTS OF LEADERSHIP

A. The Manager

1. His value system
2. Confidence in his subordinates
3. Own leadership inclinations
4. His tolerance for ambiguity

B. The Subordinates

1. Need for independence and responsibility
2. Their tolerance for ambiguity
3. Interest in problem
4. Understanding of and identification with organizational

- goals
- 5. Knowledge and experience to deal with the problem
- C. The Organization
 - 1. Values, traditions, and policies
 - 2. Organizational size
 - 3. Geographic distribution of work units
 - 4. Security of organizational plans
- D. The Group's Effectiveness
 - 1. Experience in working together
 - 2. Similarity of background and interest
 - 3. Group's confidence in itself to solve problems
 - 4. Mutual acceptance and respect
- E. The Nature and Complexity of the Problem Itself
- F. The Pressure of Time
(Information which elaborates this outline can be obtained from the previously cited book.)

Discussion and Analysis of the Task Experience

The three groups again separate with their respective trainer/observer to accomplish the following:

- A. Discuss and identify their leadership style and group structure as it existed during the Task Experience.
- B. Discuss and analyze the attitudes, beliefs, and leadership style, using the lecture as a framework for discussion.

The three groups then combine to share and compare their experience in terms of leadership styles employed, observed behavior, and related aspects of the simulation.

Integration with the Real-Life Work Situation

The participants are asked to identify, individually, what leadership style

they most frequently use back on the job. They are then asked to evaluate what forces have created their real leadership style, again using the lecture framework.

A general discussion is then initiated with comparison of on-the-job forces and leadership styles. Further probing can be achieved by asking what ideal leadership style they would like to adopt and what personal or organizational changes would have to occur in order to accomplish this deal.

Findings

In summary, we have identified the following as those dynamics which seem to provide the significant learning that takes place in the workshop.

- 1. The struggling within unorganized groups for leadership and structure.
- 2. Intensive competition between three work groups on a winner-take-all basis.
- 3. Identification of forces affecting leadership behavior.
- 4. A detailed exposure and feedback on personal attitudes, beliefs, and behavior on leadership which arise from on-the-job situations.

Follow-up Actions

A follow-up questionnaire was sent out to participants six months after they participated in the laboratory. The purpose of the follow-up was to determine what, if any, effect the laboratory experience had on back-on-the-job performance from the viewpoint of the participants. All except one respondent to the survey reported a change in leadership style. However, there was no consistent pattern in the change. Some people felt that as a result of the laboratory they had become more authoritarian; others felt they became more participative in their leadership style; whereas still others increased their span of leader-

ship to be either more authoritarian or participative as they felt the situation required.

Some comments from the participants relative to their changed leadership style were:

"I introduced three new contracts to my group using a 'consult' leadership style in lieu of my usual 'tell' style."

"My subordinates have been provided additional freedom in accomplishing their assignments and have participated to a greater degree in establishing methods and procedures to be used by the organization."

"I discovered that until the group leader takes charge and gives direction, we accomplish little. We were

not showing results because we were not coordinated."

Conclusion

As may be noted from the above comments, learning was highly individualized; that is, participants seemed to get from the laboratory what they felt they needed. Self-analysis and feedback from others provided the basis for determining the desired direction of change in leadership style. In summary, then, the two-hour laboratory is considered an effective training device for developing self-insight, increasing sensitivity to environment, and promoting better on-the-job leadership.

Bethlehem Summer Employment Program

Nothing rounds out an education like first-hand knowledge and experience and the application of textbook theory to actual job performance.

That, in essence, is the basic philosophy of a Bethlehem Steel Corporation summer employment program which each year brings prospective engineers face-to-face with real job situations.

During the past summer a group of 58 college undergraduates in engineering and other technical fields, recruited from approximately 25 schools, spent 10 weeks in Bethlehem plants as participants in a program launched in 1957.

The program's objective is to give the trainee an opportunity to become well acquainted with today's steel industry operations by carrying out ac-

tual work assignments, supplemented by special instruction periods.

The benefits of the program are twofold in that it offers summer employment that provides the trainee with a liberal salary, while, at the same time, he gains knowledge and experience that should serve him well in his later pursuit of his career.

Bethlehem's summer employment program is open to students who are currently enrolled in engineering or technical courses at accredited colleges and universities, and will complete their undergraduate studies within one year of the start of their participation in the program. Trainees also must meet the minimum physical requirements established for the program.