For Improved Work Performance:

Accentuate the Positive

By DALE M. BRETHOWER and GEARY A. RUMMLER

It is the end of your secretary's six-month probationary employment period, and you must get her evaluation into the personnel office before the end of the week. When Miss Jones was hired, both you and the personnel office told her she would be eligible for a raise at the end of her first six months if her performance proved satisfactory. According to the salary scale presented by personnel, raises at the end of the first six months run from a minimum of $120 to a maximum of $480. Various levels between are to reflect various levels of performance of the new employee.

As you prepare to recommend a raise for Miss Jones, you ponder several considerations: "I never had a secretary who was any more willing to work and who worked so hard. On this score she rates the full $480. But if I recommend that, she'll get the idea that I'm happy with everything she does—and I'm not. If she would only sharpen up on the phone and when greeting visitors. Her phone etiquette isn't worth two cents. "If I give her only $120, she will think I don't consider anything she does as outstanding—and that isn't so, either. If I give her $240, what does that mean?"

This common dilemma is not limited to problems at the clerical level. You might be the vice-president of industrial relations about to ap-
praise your personnel director. He did a good job on the suggestion program and the annual safety drive—but he has still not produced an employee magazine, even though you discussed it with him on several occasions. Or you might be a vice-president about to confront the plant manager. He got a little overzealous about meeting production; now quality and safety are slipping. How do you get the message to him?

Each of these situations calls for the application of "behavioral technology"—the science of changing behavior to a specified goal. The basis of behavioral technology is the simple observation that behavior is influenced by its consequences.

It is only recently that behavioral technology has been consciously applied as a "management technique."

It has been developed in psychological laboratories and used in classrooms, but only one application has gained much attention from management—the much-publicized technique of programmed instruction. Applied behavioral technology can and should furnish useful management tools to handle a number of problems in the general areas of on-the-job training, incentive programs, management development, and appraisal systems.

Motivation and Attitudes

A great deal of attention is now paid in management circles to questions of motivation. Concern for the feelings and needs of people is both laudable (from a humanitarian point of view) and necessary (from a practical point of view). If we do not exercise due care for feelings and needs, people will not work so willingly or effectively, even if they happen to stay on the payroll.

When a manager expresses concern over motivation, he is more likely to be trying to create a need to work than he is to be attempting to satisfy a worker's need, except when he is confronted with a high rate of turnover. His general problem can be characterized as one of satisfying enough needs so people will stay on the payroll and creating enough needs so they will work. Given this characterization, it seems that a manager's task is to identify needs so that he can chart his course between the conflicting tasks of satisfying some needs and creating others.

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Behavioral technology presents an alternative approach. It does not emphasize the identification of needs. Instead, it emphasizes measures one can take to identify, train, and maintain relevant job behavior. The question asked is not, “What are the employee’s basic needs?” but “What are the rewards that the employee will work for?” (It isn’t necessary for us to know why he wants these rewards, as long as we know that he will work to obtain them.)

**Carrots and Sticks**

One of the most compelling attributes of behavioral technology is its simplicity. The theory of behavior that has grown out of careful observations of the ways in which behavior can be influenced by its consequences suggests managerial techniques similar to time-honored “carrot and stick” procedures. However, the modern manager can do better than merely carrying a big stick or dangling carrots in front of people’s noses. Some examples of applications will help to show some of the things he can do.

Managers who have successfully applied the principles of behavioral technology in their own operations have found it valuable in three areas:

- Analyzing problems.
- Changing job behavior.
- Designing effective learning systems.

**Analyzing Problems**

The use of behavioral technology in the analysis of problems can be illustrated by the case of a company that was concerned with improving the performance of its 3,000 route men in servicing accounts and selling to retailers. Specifically, the company found that route men were placing new deliveries to retailers on top of or in front of previously delivered stock, leaving stock that had become too old with the retailer rather than returning it to the company’s warehouse. In addition, the route men were failing to expand their routes by selling to new retailers.

It was originally thought that extensive training of the route men would be necessary to solve these problems. Before inaugurating a training program, however, an analysis was carried out, utilizing behavioral technology to define the problem more specifically. A brief test was given to a sample of route men on how to rotate stock; a test on how to open new accounts was given to another sample of route men; and the consequences to the route men of their performance (or lack of performance) were analyzed.

The test on how to rotate stock and when to return old stock showed that it would be wasteful to train route men in these areas, since they already knew the proper procedures. On the other hand, the test showed that route men did not know how to open new accounts, so training was probably required in that area.

The analysis of the consequences of the route men’s performance offered some explanation for their failure to perform some parts of the job that they knew how to do. Re-
garding the rotation of stock, the analysis indicated the following consequences when the route men performed properly:

- **Financial**: Since the route men’s compensation consisted of a basic salary plus a commission on sales, it was unaffected by spoilage rates.

- **Supervision**: Route men were criticized by their supervisors when they did return spoiled merchandise.

On the other hand, when the route men did not rotate the stock properly, these were the consequences:

- **Financial**: A route man might be discharged for failure to rotate stock, but this happened only in extreme circumstances. Otherwise, there were no financial consequences.

- **Supervision**: When an inspector found spoiled products at the retailers’ stores, the route man would be criticized, but he could often argue, legitimately, that the old stock was there when he took over the route.

This analysis led to the conclusion that training was not necessary. It was decided to investigate means of providing a monetary incentive for servicing accounts properly, and to provide for supervisory recognition when performance was adequate. There would be no criticism by supervisors either for the return of spoiled merchandise or for failure to return it when a plausible reason existed.

As for the opening of new accounts, analysis indicated that when the job was performed properly, the larger sales could result in increased income of as much as fifty dollars per month to the route men. When they did not open new accounts, of course, there was no change in compensation. In either case, there were no consequences relating to supervision.

In this case, it was determined that there would be no change in financial incentives, but that supervisors would provide recognition to route men who opened new accounts. It was also decided that training in methods of opening new accounts would be appropriate.

In analyzing this problem, then, the investigator first checked to see whether the subjects knew how to do the job. Learning that they did know how to do parts of it, he looked to see what rewards and punishments might be influencing their behavior. By first analyzing the situation, he saved himself from “training” behavior that was already known and found ways other than training to decrease the “behavioral deficit.”

**Job Behavior**

Two examples will illustrate ways of making changes in factors influencing job behavior to obtain the desired behavior.

Mr. Brown, the personnel director, has selected a charming and outgoing girl to fill the position of secretary and receptionist outside his office. Because he has impressed her with the need for maintaining a friendly atmosphere, the secretary has been quick to engage in conver-
sations with employees who happen past her desk in the course of the day. Because of what appears to be an overdeveloped sense of duty, however, the conversations are beginning to get increasingly longer. Mr. Brown wishes that the girl would cut these engagements shorter, since they are distracting to him and are not conducive to optimal productivity for the girl. On the other hand, he does not want her to stop being friendly.

Mr. Brown decides to reinforce the behavior he wants, rather than to punish the undesirable behavior. He waits until the next time the secretary engages in conversation with a passer-by, but for some reason breaks it off short. Then he mentions to the girl how pleased he was with her friendly but brief engagement with the person. After several more timely reinforcements of the proper behavior, the average time the girl spends in such conversations is halved.

This case needs little discussion except to point out that two courses were open to Mr. Brown. He could have spoken to his secretary about the conversations, but her reaction would probably have been to limit herself to curt greetings to people until she was able to figure out exactly what was acceptable to Mr. Brown. The technique he used merely altered her behavior until it was "on target."

To take another example: The people working for Mr. Smith wrote reports that he edited, compiled, and completed in a final report to top management. Every time he put together a final report he found it necessary to telephone his subordinates for additional information and often to have them rewrite their reports. As a result, he always had a crash program on his hands in order to get everything together by the deadline date.

To solve this problem, Smith requested the men to send a file copy of each report they submitted to him. He later returned their file copies with such complimentary notes in the margin as, "well organized"; "excellent paragraph"; "good point"; "that's the kind of information we can really use." In short, he accentuated the positive features of each report—and, as a result, he eliminated the negative features. The quality of the reports rapidly improved. He also found that the men spent more time working on them, so he rarely had to ask for more information.

Designing Learning Systems

The use of behavioral technology in the design of effective learning systems may be illustrated by the experience of the Kroger Company. Safety specialists determined that back injuries sustained by store and warehouse employees were costing hundreds of thousands of dollars annually, and the training department was asked to train the store and warehouse personnel to lift properly. But testing indicated that employees had already learned how to lift cor-
rectly, even though they did not always do so on the job.

The real problem, then, was to get employees to apply at all times the lifting procedure they had been taught. Current supervisory practice, which involved reprimanding a man who was seen lifting improperly, had proved to be ineffective in changing the men's behavior.

It was decided that the most appropriate subjects for training would be the supervisors of the employees who did the lifting, and that the subject matter would be the “positive reinforcement of correct lifting behavior.” The course dealt specifically with the lifting problem and taught little of the general theory of behavior change; it stressed examples of what to say in particular situations. For example:

Joe, one of your employees, is lifting a large box of merchandise. He has his arms straight, and he is keeping his back in as near a straight up-and-down position as possible. Which of the following should you say to Joe?

( ) “Joe, work a little faster and practice lifting like that.”

( ) “Joe, if more of the men lifted as you do, my job would be a lot easier.”

( ) Say nothing to Joe.

At Kroger, then, the learning system that was devised consisted of two related training programs. The first program trained employees in proper lifting techniques; the second trained the supervisors in methods of rewarding and reinforcing the desired behavior. Back injuries have been reduced significantly in the division where the system has been put into effect. It is useful to note that instruction in proper lifting techniques was unsuccessful when used alone, but back injuries were reduced significantly when training was coupled with an environment that supported the trained behavior.

The Nature of Reinforcers

The use of positive reinforcement is a powerful technique. We have all experienced it ourselves and seen it influence the behavior of others. When we hear a joke we consider funny, we may tell it the first time with some apprehension. If it gets the response we want, we are reinforced and encouraged to tell it again on other occasions; but if the story draws nothing but blank stares the first time we tell it, that story-telling behavior is likely to be extinguished. Similarly, certain behavior in speakers and performance—e.g., telling
stories or singing certain songs—are reinforced by the applause and reactions of the audience.

Complex behaviors can be shaped by reinforcing immediately following an act. Money is a powerful reinforcer; it will strengthen a lot of behavior. To function effectively, however, a reinforcer must be presented immediately after the behavior occurs, and Miss Jones's boss cannot stand around and give her nickels every time she comes a little closer to answering the telephone properly. Fortunately, he doesn't have to. People, by and large, operate on a system of primary and secondary reinforcers. The behavior of Miss Jones can be shaped by verbal reinforcers from the boss, particularly if she knows that they will eventually and periodically be followed by monetary reinforcers.

Useful reinforcers in business are money and position, and the possibility of increasing either or both. Other reinforcers don't appear in personnel files, but they are important because they link the behavior of the employee with the long-range consequences of that behavior. Effective reinforcers vary from person to person, but employees usually describe them with such phrases as "recognition," "treatment as a professional," "attention given to my ideas," and "seeing my ideas put to use."

Money is a reinforcer largely because you can buy other things with it. Unless one is on the verge of poverty, a small change in income will not make a noticeable change in one's standard of living. A raise of $500 may seem fairly large to you if you are earning $4,000, but not so large if you are earning $8,000, and hardly noticeable if you are earning $16,000. Moreover, money without praise from the boss, colleagues, or the public may not be a sufficient reinforcer. If there are no sources of intrinsic reinforcement on the job, it would take a lot of money in an incentive program to make you increase production.

Schedules of Reinforcement

Applying reinforcers in a meaningful and effective manner is no easy task, as anyone who has had to administer an appraisal system or an incentive system well knows. Certain people work well for long periods with only a few reinforcing words, while others continually need reinforcement from the boss. The behavioral scientist usually knows so much about the prior reinforcement history of the subjects in his laboratory that he knows why there is a difference in their schedules of reinforcement. It is possible for him to determine the proper schedule for each individual, and to build up the ratio of work to reinforcement in the individual who requires frequent words of praise. In the laboratory, this is done by gradually requiring more or better responses before presenting a reinforcer.

We can do the same outside the laboratory. As we increase our skill, we learn how rapidly we can increase the ratio without having adverse ef-
fects on behavior. It is an important point to remember, however, that reinforcers must not be so frequent that their effect will be reduced. Everyone has worked for a boss who was always complimenting his work but never followed through with any money, or who complimented everyone for irrelevant things regardless of whether his job performance was improving or deteriorating.

**Time Between Act and Consequences**

An important factor in the successful changing of behavior is the time between the act and the reinforcement. If a man comes home from work to find the wife cooking his favorite meal, he is sure she is "reinforcing" some behavior on his part, but he is not sure which behavior. He might consider various possibilities—he bought her flowers, he cleaned out the garage, he offered her the car to take the children to the zoo—but unless the act is connected with the reinforcement, there will be no effect on the act itself.

In fact, there is some danger of reinforcing the wrong act. An anthropologist would have difficulty convincing the members of a primitive society that their rain dance was a superstition. They dance and dance, and it rains. Of course, if they didn't dance they would discover the truth, but why take that chance? If your subordinate works late at the office two or three times a week for three months, it may have no bearing at all on your favorable appraisal of his work—in fact, you may consider it evidence of poor planning on his part—but if he gets the raise, he may well believe that his long hours were what made the difference.

**Motivation and Behavior**

The Kroger Company problem provides a good example of the difference between a motivational and a behavioral approach to a problem. If you take a motivation-oriented approach to the problem of back injuries, you might do a number of things. You might, for example, start a "zero-back-injuries" campaign in which you tried to motivate men to lift properly by pointing out the dangers to the men and the cost to the company. When that achieved limited results (as similar techniques did at Kroger), you might take a more "scientific" approach and examine the literature or engage a consultant in an attempt to find what motivates men to act dangerously. You then might try to screen employees with psychological tests to weed out those who seemed prone to self-destruction, danger-seeking, or carelessness. Or, having identified the needs, you might try to provide other means of satisfying them—organizing a company hockey team, for example.

Looking for techniques for changing and maintaining behavior leads to a different approach. In the Kroger example, looking at a theory of learning instead of a theory of motivation led to presenting a positive reinforcer when supervisors saw proper lifting. The provisional an-
The question, "What will they work for?" was, "Recognition and praise of good work." The procedure worked, and accidents were reduced.

**Theory and Practice**

Since behavior is influenced by its consequences, there are several things a manager or management can do to realize the optimum effect of this relationship:

1. Train only when the behavior trained will be reinforced on the job.
2. Design jobs so rewards for the desired behavior exceed punishment for failure.
3. Arrange conditions so an employee can see which of his acts are being reinforced.
4. Arrange the reinforcement so it is given in time to be linked to the act.
5. Select reinforcers that are, in fact, reinforcing to the employee.

These five conditions call for a re-examination of several existing management practices. The first and second condition lead us to re-examine some training and personnel activities in the organization. Training directors often feel that many of the problems dropped at their doors are not "training" problems. A training man skilled in the application of behavioral technology can assess all "behavioral deficit" problems called to his attention and determine whether the need is for acquisition of behavior or maintenance of that behavior on the job, and what should be done in each instance. (In the case of the route men, for example, training was needed to correct the failure to open new accounts, but a different action—a change in supervisory practices—was needed to get the men to rotate stock.)

The ability to prescribe correct action for behavioral-deficit problems means that the trainer will no longer be in the position of training a behavior that he knows will not be maintained or supported on the job, then being blamed because the men "forget" the training when they get back on the job. He can now specify what conditions must exist on the job before the desired behavior can be expected to occur.

The third and fourth conditions point to appraisal systems. How often is an appraisal made? If it's once a year, does the employee know what he is being reinforced for? If it is clear that he is being reinforced for a project he completed six months ago, how effective is the reward in terms of reinforcing that particular behavior? Does the appraisal consider behavior, or is it centered around "personality" traits? If the latter, a look at results-oriented appraisals might be valuable.

Point five, consideration of reinforcers, might lead to another look at the general area of wage and salary administration. Does an annual increase lead to the optimal development of behavior? What is the effect of across-the-board increases on developing acceptable behavior? (Some people don't dance so hard, but they
still get the rain.) How much of an increase is necessary for effective reinforcement? How realistic are certain brackets, maximums, and percentage ceilings, when behavior vital to the organization is being developed? The existing wage-and-salary administration system may be expedient and relatively easy to administer, but is it flexible enough to contribute much to the intelligent development of productive behavior?

The Whole Job

There are many techniques for obtaining the desired behavior from subordinates—the most common being to tell people what is to be done. Most people know from experience that there is a certain correlation between what the manager tells them and what he rewards or punishes. As long as the manager sees to it that the correlation is high, telling them to do things works.

Since it does work fairly often, however, the manager may forget to make sure that the reinforcement and punishment contingencies are maintained. Employees learn such inconsistencies rapidly—which is why the manager's job is only half finished when he tells someone to do something. He must follow through and assure that desired job behavior is consistently rewarded.

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**Reward for Quality Control: A Foster Child**

Kids are the key to a quality-control incentive program at General Electric's Large Generator & Motor Department, in Schenectady, N.Y. The incentive is a chance to sponsor a foreign child for one year through the Foster Parents Plan, and in the first month of the program—launched last February—11 out of 28 work-area groups exceeded their goals and thus became foster parents from afar. (Goals are established on the basis of the previous year's performance.)

Quoted in *Steel*, the department's manager of marketing communications, Joseph E. Podolsky, points out: "Here's a quality-control incentive program that involves the worker's entire family. It acts as a continuous reminder to employees of the good job they're doing."

Quality Control Manager Roy Burris adds: "It doesn't make any difference how many times the same group wins; the incentive is there for everybody. And everybody wins—the worker, the customers, and the sponsored child."
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