
UNIT 11 BEHAVIOUR MODIFICATION

Objective

After studying this unit you will have an understanding of -

- behaviour modification techniques,
- the relevance of behaviour modification in organisation,
- training manager to use this technique.

Structure

- 11.1 Introduction
- 11.2 Behaviour Modification in Organisations
- 11.3 Methods of the Behaviour Management and Change
- 11.4 Business and Industrial Applications: A look to the future
- 11.5 Transitional Contingency Contracting and the Premack Principle in Business
- 11.6 A Skill Training Approach
- 11.7 Training Format in Industrial Behaviour Modification
- 11.8 Ethics of Behaviour Modification
- 11.9 Self-Assessment Questions
- 11.10 Further Readings

11.1 INTRODUCTION

A manager is someone who organises a group of people to achieve a given objective. It may be exotic as winning the pennant or an mundane as making sure all of the garbage is picked up, but it remains a job of controlling behaviour to achieve an end. The manager's role is one of managing people's behaviour so that both they and the organisation prosper. The manager is responsible for scheduling behaviour, prompting it, setting goals for it, measuring it, and evaluating it. The scientific method that resulted in all of the sophisticated technology that today's manager has at his command, has also been applied to these questions of how to manage. Yet, as often as not, managers receive little training in the principles of behaviour change or measurement. The effort here is to present these techniques and the theories and findings that support them so that managers can become technologically refined about how to manage behaviour. This new technology may be identified as industrial behaviour modification, organisational behaviour management, organisational behaviour analysis, positive management, or any of the number of other behaviour rubrics. In essence, these labels are interchangeable. They all stand for applied behaviour analysis in industrial-organisational settings.

There are a number of general rules about evoking and measuring behaviour change. For example, we know that the correlation between attitudes or -verbal statements and behaviour is less than ideal so the most accurate measures of behaviour must be sought in direct observation or responses. Similarly, it has been found that ratings of people tend to be so biased by extraneous variables that they fail to reflect the behaviour they intended to measure. The manager who is aware of these facts is unlikely to spend an exorbitant amount of company money to develop an attitude survey or base his personal decisions on the ratings of supervisors. He will bring to look for more direct measures of the behaviours



that concern him. It is not the function of the manager to pass value judgements on whether or not those with whom he deals have proper attitudes. His function is to see that his behaviour, and those aspects of his company's system over which he has control, give people a positive incentive to do what is desired.

The manager should manage through the presentation of incentives on rewards is very important. When one reviews the research findings that compare the efficacy of reward to that of punishment in managing behaviour one finds that positive reinforcement has been shown to be the more effective technique as well as being less disturbing to the individuals. (In industry, however, the traditional punitive approach to management is still dominant). From factory workers to farmhand the news that the boss wants to see you usually gives rise to grim forebodings. Yet nowhere is it etched in stone that managers and employee must be adversaries. It is not a sacrilege for a manager to call an employee into his office just to praise him. After all, they are both on the same team, working for the same goals.

Unfortunately, the history of labour-management relations has rarely highlighted the congruent interests of worker and boss. Management, by definition, involves controlling employees behaviour in order to reach organisational goals. All too often management and labour assume that the employee does not have any interest in those goals. This assumption is most often translated into a carrot and stick management approach with so much emphasis on the stick that the employee gets only the short end. The employee gets no extra pay, no praise, no attention, and no status for doing a job well, so he does it only well enough to get by. His salary is at best unrelated to his performance and at works used to maintain a level of mediocrity.

How does one begin to use rewards to change employee behaviour? How does one directly measure important work behaviour rather than attitudes or by ratings? Finally, is there a technology that can make management more positive, its assessment more accurate, and its output more effective? Applied behaviour analysis is the branch of psychology that has been attempting to answer these questions about how long to manage behaviour. Behaviour modification can be used as a management tool. The behavioural approach of direct behaviour change is contrasted to earlier psychological theories that focuses on the employee's needs, values, and traits. The theoretical foundations for this new, empirical approach and guidelines for the use of positive reinforcement, behaviour change programme are presented here.

11.2 BEHAVIOUR MODIFICATION IN ORGANIZATIONS

Behaviour is a function of its consequences. That is the heart of the behavioural approach if you spend all of your time nagging and criticising a particular employee, you are likely to find that he comes to work less frequently and avoids you when he is present. Work is punishing to that employee and he will escape it whenever possible. Work behaviour that lead to reward will increase. Those that lead to discomfort will decrease. So it is for every organism including your workers.

If the relationship between the act and the results is the heart of behaviour management, it's life blood date. Accurate observations of employee behaviour is the evidence that is required before earned reward can be appropriately delivered. It provides the feedback that an employee must have in order to know that he is performing satisfactorily.

Industrial behaviour modification is based on the work of B.F. Skinner (1938, 1958) and the broad area of psychology called learning theory. Beginning with



Thorndike (1911), learning theorists have focused on the law of effect: the behaviour that leads to positive consequences is likely to increase. While this principal has obvious implications for managers in terms of increasing or decreasing worker performance, the law of effect implicitly holds within it an even more basic point that many management theorists have ignored. As Watson (1924) pointed out many years ago, the appropriate field of study for psychologists is behaviour: that which can be observed and quantified. Job involvement, job satisfaction, self-actualisation, attitudes toward authority, or personality traits, all of which must be inferred from behaviour or verbal behaviour. While behaviourists are not diametrically opposed to these concepts, and can only be understood as they are reflected in behaviour. Thus, it is the behaviour, not the inferred construct that is of importance.

Behaviour modification or applied behaviour analysis is the application of the techniques of experimental psychology to applied problems. It is an attempt to bring the precise data collection methods of the laboratory behaviour scientist to bear on real world problems. As science, the techniques of monitoring, charting, feedback, and positive reinforcement (in the form of attention and more tangible rewards) have produced some marked successes in a wide variety of settings. Behaviour has been changed, improved, and eliminated in a predictable fashion at reasonable cost.

While many industrial problems certainly involved increasing or decreasing behaviour, the industrial manager was not nearly as devoid of effective techniques. He has incentive plans, wages, bonuses, disciplinary procedures, and at last resort the threat of termination as behaviour change techniques. Even if these did not work perfectly, they worked well enough to be rewarding to the manager. It was not until the late sixties and early seventies that a number of behavioral scientists began to extrapolate the principles of applied behaviour analysis from other areas into the workplace.

It is probably impossible to attribute the birth of industrial behaviour modification to any one individual, school, or even area of the country. The first publications on positive reinforcement (Brethower & Rummel, 1966) can be attributed to the programmed learning and behaviour change workshops, conducted at the University of Michigan under George Ordione. The works of Nord and Mawhinney were particularly influential in extending the audience for operant intervention through their translation of management problems and theories into the terminology and perspective of applied behaviour.

The most telling of these has been Edwin Locke who has argued forcefully that goal-setting rather than knowledge of results as the crucial variable in the effectiveness of feedback based interventions. This question remains unresolved, but the limited literature suggests that while goal-setting is an effective technique to improve performance it is not sufficient to account for feedback effects.

While it is difficult to identify the first admittedly "operant" approach in industry, it is far easier to say who is most responsible for bringing the positive results of industrial behaviour management programmes to the attention of the general public (Ed. Feeney's success at Emery Boosts Performance, 1973, Laird, 1971; Performance Adult, Feedback and Positive Reinforcement, 1972) and a widely distributed film (Business Behaviorism and the Bottom Line). In addition to the developments at Emery, reported of other large scale programmes by internal consultants became known.

Industrial behaviour modification is not really a theoretical approach as much as it is a new methodology for managers. It represents a concrete, practical programme for changing employee behaviour through changes in management behaviour. For the manager to achieve organisational goals he must change his



behaviour so that it is possible for the employee to gain something in exchange for competent work. He must provide rewards and collect accurate data so that the rewards follow behaviours that he wants to increase. That's really all there is to it !

Maslow

The need hierarchy of Abraham Maslow (1943) is perhaps the most widely discussed and researched motivational theory. According to Maslow's theory, individuals are motivated to act by internal forces which Maslow labels as needs. These needs when activated produce tension within the individual who will then act in a manner to reduce this internal tension, or in Maslow's terminology "satisfy the need". Once a need has satisfied, it ceases to be a motivation and another need becomes activated.

But we have no way to observe need states, measure need states, activated need states, or predict behaviour if the need states could be identified. While being able to describe the need of a worker, we have been given no practical tools to directly influence a worker's behaviour - the very thing a manager wants to do. Needs do not explain the cause of behaviour but merely provide an easy way to summarize observations of an employee's behaviour. Therein lies the danger. As Skinner (1953) argues.

When we say the man eats because he is hungry, smokes a great deal because 'he has the tobacco habit, fights because of the instinct of pugnacity, behaves brilliantly because of his intelligence, or, plays the piano well because of his musical ability we seem to be referring to causes. But on analysis these phrases to be merely redundant descriptions. A single set of facts if described by the two statements: 'He eats' and 'he is hungry'.

In other words, needs are inferred from behaviour. There is no other evidence for them. So let us stick to the observable instead of complicating the issues by creating the hypothetical construct of a need. Inferring a hypothetical construct is redundant, but as Skinner suggests, it has even more troublesome properties. After a while need states seem to take on a life of their own and instead of being viewed as simply a summary of behaviour observations they begin to be seen as the cause of the behaviour. Needs states thus tend to obscure the variables that are immediately available for analysis by the manager - the events which precede the response, the behaviour, and the event which follows the behaviour.

If an employee is not productive, you can either suggest that the work environment is not satisfying one of his proponent needs or you may hypothesize that his behaviour does not lead to appropriate rewards. As a follower of Maslow, you would search for an internal, unfulfilled need while as a behaviour manager you would simply change the reward structure to make productive behaviour more likely to occur.

Herzberg

The difficulties in applying Maslow's theory have not gone unnoticed. Herzberg (1966) attempted to tailor Maslow's approach to the work environment by identifying organisational factors that corresponded to Maslow's need. For example, Maslow's physiological, safety and social needs took on the Herzbergian look of pay, job security, company policy, and supervision. Maslow's ego and self-actualisation needs were transformed into the organisational factors of achievement, recognition, and responsibility. If Herzberg had stopped at this point, we could have lauded him for identifying some of the organisational and environmental events that can and do influence worker behaviour (under appropriate conditions, of course). Unfortunately, as theorists are prone to do, he went a few steps too far. He divided the organizational factors into two distinctly



different groups. The one group of factors (pay, job security, company policy, and supervision) were labeled, hygiene factors, while the other group of factors (recognition, achievement, advancement) were labeled motivators. Herzberg proposed that the hygiene factors existed in an organisational setting above some acceptable level, employee dissatisfaction was prevented. These factors, however, were totally unrelated to either satisfaction or motivation. On the other hand they motivates, when present in the organisation, lead to increased job satisfaction and motivation.

Motivators, Herzberg maintained, were totally unrelated to dissatisfaction. Essentially, satisfaction/motivation and dissatisfaction are viewed as discrete concepts with one set of organisational factors influencing satisfaction/motivation and an entirely different set influencing dissatisfaction.

From a more practical viewpoint, imagine as a manager attempting to determine when the organisational factors "existed above some acceptable level". Herzberg further maintained that all workers responded in the same manner to the organisational factors. Our common sense eschews the notion that all our friends and acquaintances would respond in the same fashion to these factors.

Herzberg did identify several factors that can be used as rewards for behaviour change. What he failed to recognise is that employee will work to gain that which is in short supply and that this may vary from employee to employee, and that the timing and frequency of the presentation of the organisational factors is critical if one is to change behaviour in a desired manner. Still, Herzberg's theory hangs on the management literature. Perhaps it has survived as an academic exercise to test an individual's ability to conceptualize and deal with abstract ideas. Theories, like snowballs, tend to gain momentum and density over time eventually ending up as abominable snowmen.

Expectancy Theories of Motivation

Expectancy theorists, rather than attempting to classify and labels factors which influence worker behaviour focused exclusively on examining the process of motivation. Vroom (1964) and Porter and Lawler (1968) tried to specify how organisational factors interact with individual variables to influence a worker to behave in a creating manner.

Based on Lewin's (1947) hypotheses about motivation, expectations and behaviour, Vroom suggests that motivation is a function of the person's perceptions of the desirability of the outcomes will be forthcoming (expectancy). According to Vroom, individuals add up the pros and cons of various outcomes as weighted by the probability that each will occur and then act in the manner which will provide the greatest payoff. Vroom presents his theory in a mathematical model:

The force a person to perform an act is a monotonically increasing functions of the algebraic sum of the products of the valences of all outcomes and the strength of his expectancies that the act will be followed by the attainment of these outcomes

Mathematically, $F_i = \sum_1 (E_{ij} V_j)$ (I = n 1,.....,m)

F_i = the force to perform act I

E_{ij} = the strength of the expectancy that act I will be followed by outcome j

V_j = the valence of outcome j

N = the number of outcomes.



The mathematical model is appealing because of its apparent precision. All of us have been taught to associate mathematical models with scientific credibility from our chemistry and algebra classes. However, the foreman trying to predict the behaviour of his workers would be required to sit for hours with his calculator or else be an expert in computer technology if he was going to use Vroom's formula.

Porter and Lawler (1968) spurned the mathematical model but added more elements to Vroom's theory. They suggest that an individual's performance is influenced not "only" by the perceived valences of outcomes and the perceived probabilities that the outcomes will follow a behaviour, but also by an individual's abilities, traits, and role perceptions. They distinguish between an individual's effort to perform an act and the successful performance of the act itself, emphasizing that effort does not necessarily result in successful performance. Further, performance is influenced by how the individual defines the job or his role perceptions. If the individual perceives his job differently than his supervisor, the employee may expend a great deal of effort that is misdirected and thus perform poorly from the supervisor's viewpoint. In essence, Porter and Lawler maintain that if an individual is to perform a job effectively, he must have an accurate concept of what his job is, and the abilities and traits that are required to perform the job. He must also perceive a high probability that his efforts will lead to specific, predictable outcomes and believe that the positive outcomes will outweigh the negative outcomes.

Porter and Lawler's performance model exists in a parallel cognitive universe to industrial behaviour modification. The model is a future-oriented theory based on internal thought process. In contrast, industrial behaviour modification relies on observable environmental events and the reinforcement history of the individual. There is no need for the creation of this cognitive universe. Porter and Lawler's concepts can be readily transformed and redefined in behavioral terms. They maintain that an individual's behaviour is influenced by subjective feelings (valences) about the outcomes that will follow a behaviour. Since an individual's feelings about an outcome cannot be directly observed, these feelings must be inferred through past behaviour. The behaviorist rather than dealing with unobservable and immeasurable feelings, simply determines how a specific outcome or consequence affects the frequency of the behaviour. If a particular consequence increases the frequency of a certain behaviour, the consequence is a reinforcer. If an outcome presented contingently upon a response, decreases the frequency of the response, the outcome is a punisher.

A second major component of Porter and Lawler's theory is an individual's perceived probability that certain outcomes will follow certain behaviours. The perceived probability can only be developed through prior association of the response and the outcome or outcomes. Therefore, it is easier to measure this association directly than to refer to the concept of perceived probability. Behaviorists analyse the relationship between the antecedent stimuli that precede the behaviour, the behaviour and the consequences that follow the behaviour. If they consistently occur in the presence of the same antecedent stimuli and/or is followed by the same consequence, it is reasonable to predict that, given these circumstances in the future, the behaviour will most likely occur.

Porter and Lawler maintain that an individual must perceive a high probability that his efforts will result in a behaviour that leads to positive outcomes. Whether or not this effort results in appropriate behaviour depends on an individual's abilities, traits, and role perceptions. Applied behaviour analysts deal with the concept of effort in a different manner. Effort is not measurable but the resulting



response is. If the response is not the desired response, the behaviour analyst reinforce, successive approximations to the desired response. You start where the individual is and continually shape the desired response. It is recognised that individuals must have the physical and intellectual ability to perform the response if shaping is to be effective.

A person's role perception is based on the feedback he has received for prior responses and the responses that have been reinforced will be 'perceived' as appropriate responses. While a manager cannot directly alter a person's "role perception", he can alter consequences that follow the response.

Porter and Lawler's performance model refutes the traditional notion that satisfaction causes good performance. Instead, they suggest that if good performance results in the attainment of equitable and desired rewards, the attainment of the desired rewards causes satisfaction. The key variable for both good performance and satisfaction is the receipt of desired rewards. The assumption that satisfaction causes good performance is one that has long plagued industrial psychology. Satisfaction is a feeling or attitude that results from the receipt of a desired reward. It does not influence performance. In a similar vein, behaviour managers view satisfaction as accompanying feelings which result from reinforcement of behaviour. It does not help us explain behaviour.

11.3 METHODS OF THE BEHAVIOUR MANAGEMENT AND CHANGE

At this point the reader has in all probability recognised that the principles of behaviour management are what has always been done to effectively change employee behaviour. The problem is that it is usually done so haphazardly that the desired behaviours change rarely occurs. There are rules that must be followed if one is going to productively embark on a programme to modify work habits.

Applied behaviour analysis, behavioral system approaches, and contingency management are highly complex terms dependent on one simple premise: that behaviour is a function of its consequences.

11.3.1 How does one Implement a Behavioral Contingency System?

Obviously the first thing to do is to find out if there is a performance problem. As simple as this sounds, it may be most difficult step in the entire process. Being able to identify the problems assumes an ongoing feedback system that includes both qualitative and quantitative data on specific work behaviours (one must know that the employee is to do and how well and how often he is doing it).

From the executive board room to the company main handler, most employees think that they are doing the job as well as they can, and their supervisors are likely to believe them. The first revelation of a good behavioral measurement system in industrial settings is often the discovery that the data do not support these optimistic appraisals. Whether you call it a performance audit or simply collecting a baserate, one must begin by observing behaviour, not just asking about it.

Now let us take a detailed look at how to implement a four step procedure.



Guidelines for Implementing Behaviour Management Programme

Step 1: Observe

Try to identify the crucial productivity behaviours that occur at your place of business. Don't rush this process or assume that you already know! Give some time to just observing what actually goes on. Avoid just looking for problems. You should also attend to behaviour that are being done well but are going unrewarded. As Fenney (1978) suggests, look for the payoff. Find out what behaviours are mostly directly connected to the bottom line: profits and losses.

Step 2: Pinpoint

Your goal at this step is to identify those behaviours that may require change. The keystone of this process is to uncover performance standards for these behaviour if they exist.

Step 3: Record

Take a baseline or baserate to establish the preintervention level of the behaviour that you have pinpointed. Record not only the actively itself but the stimulus conditions under which it occurs, as well as the consequences that follow it for the employee. Remember that behaviour is a function of its consequences and those consequences are usually signalled by some sort of discriminative stimulus or cue. You can alter the frequency of that behaviour either by changing the consequence or by eliminating the cues that call for that response. Your system of recording should be noncreative. That means that the mere collection of the data should not affect the frequency of the behaviour. If this impossible in a given situation, remember that it is better to have reactive measure than no measure at all. In fact the reaction is likely to be in the desired direction, i.e. the behaviour will improve just by being recorded. Reactive recording provides feedback to the employee that he can use to improve performance.

If the behaviour that you have chosen is immeasurable, go back to step 2. There is no more sacred rule in the behavioral approach than the truism that if you can't measure it you can't work with. Fortunately, the creative manager will find that most significant profit and loss activity can be quantitatively recorded if he can overcome his tendency to ask people's opinions rather than collect real data. This point cannot be made too strongly! If your evaluation programme is committed to supervisor's ratings over direct measures of employee output, you want your workers to respond so that the supervisor likes them, you should use some system of supervisory ratings. If on the other hand you are interested in increasing the employee's productive work behaviours, you better directly measure those behaviours. The weaknesses of traditional performance appraisal have been well documented.

Once you have a baseline on the behaviour that you have pinpointed, it is necessary to put those figures into some organisational perspectives. The first thing that you need to know is if the performance matches company standards for that activity. In order to answer that question you must find out if the company has any standards for that response. If the company has quantified standards, and this is the exception rather than the rule, it is worthwhile to inquire into whether or not the employee is aware of what the standards are supposed to be. If he knows the standards, does he have any way of knowing how well he is doing in comparison to them? Can he find out if his performance is up to par as he goes along, in comparison to them? Can he find out if his performance is up to par as he goes along, instead of 6 months later? The employee himself must know how well he is doing in order to change or even maintain performance. Feedback or knowledge of results has been shown to be an absolute necessity for learning. For



an example to adequately perform the tasks assigned to him he must: (1) know what are the appropriate responses, (2) have the skills to do it, (3) find it rewarding to engage in the behaviour, and (4) most importantly, be able to recognise when he has performed adequately. Without feedback the fourth step is impossible. Feedback is a significant moderating variable for expectancy theories of motivation.

Research in a variety of fields have shown that feedback alone is enough to change behaviour but feedback is most effective when it is most explicit and least threatening. These criteria are most easily fulfilled when employees themselves are encouraged (rewarded) for collecting data on specific response components of their work behaviour. This can only be done if the employee feels secure in the knowledge that the data he collects will not be used against him. Suppose that we want to know how many new customer sales calls a sales representative makes. One must praise the sales representatives who do the recording, punishment should be avoided and rewards dispensed for activities that may lead to recording. The manager must identify the specific behaviour to be rewarded but also recognise that the behaviour is part of a chain of responses. For example, recording behaviour consists of developing a record keeping sheet, taking the sheet along on calls, etc.

The positive effects of self-monitoring on performance have been demonstrated in a variety of settings, although in most instantiates self-monitoring has been only a part of thy intervention. Attitudinal studies suggest that direct feedback from the task as is provided by self-recording is highly valued by workers, and peer comments are also highly rated source of feedback.

A final and crucial variable in feedback effects in the choice between positive and negative approaches to providing the employee with data on his performance. Feedback is most effective when it is least threatening and is perceived as least threatening when it is positive and supportive.

There is one final piece of information that you must gather before you can proceed to step 4; changing the consequences. You must systematically analyse the rewards and sanctions that are maintaining the current behaviour or keeping the desired behaviour from occurring, in simple terms, what happens when the employee takes the correct action? If your answer is nothing or, worse yet, something aversive, you are going to have to change the effects of that behaviour if you want it to increase or even continue at the same level. Similarly, if the consequences for an undesirable behaviour are positive, you are going to have a tough time getting rid of it until you eliminate the rewards that follow it.

The self-defeating reward structures often present in industry. A well-known New York area bank responded to teller shortages by having all of the tellers work together after hours to find the difference. All of the tellers got paid overtime while they worked to find the shortage. Observation suggested that this activity involved considerable interpersonal reinforcement as well, since difference findings became a social occasion for the employees. In effect, the company was providing more pay and the opportunity for social interactions contingent on somebody coming up short. To make matter worse the bank encouraged the tellers who came up short most frequently to close their windows early so that they could check for difference before the end of the day. Thus if you regularly failed to check the balance you got to go home early most of the time. It should come as no surprise that teller shortages were a major problem for this financial institution.

Step 4: Change the Consequences

The first consequences that you should change is to correct the feedback deficiencies discovered in step 3. Remember, knowledge of results is a reward if



the employee is allowed to collect his own data and/or has no fear of reprisals for substandard performance. In many instances correction of the feedback programme has significantly improved performance so that more complicated procedures were unnecessary. Unfortunately, inadequate feedback is not the only reason for poor performance. When you baserate suggest that a lack of rewards rather than a lack of feedback is creating the problem, it may be time to implement a positive reinforcement programme.

Table 1: Questions for Analysing Current Performance Contingencies

1. What is the standard of performance?
 2. Does the employee know the standard?
 3. How well does the employee think he is doing?
 4. How well does this supervisor think he is doing?
 5. What aversive consequences of the desired behaviour may be suppressing it?
 6. What is reinforcing the undesired behaviour?
 7. What natural or contrived reinforcers are at hand in the immediate work environment to being reinforcing the desired behaviour?
 8. What aversive consequences of the undersized behaviour are at hand?
 9. What learner responses are already available in embarking on a programme of progressive approximation to the desired behaviour?
 10. What schedule of reinforcement is most efficient for developing and maintaining the desired behaviour?
 11. What reinforcers are available to reward the worker's supervisor for reinforcing the worker's new behaviour?
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Source: John R. Murphy

In order to justify such a programme, there are other questions that you should answer from your baserate data. To begin this procedure you must find out if the employee ever makes the correct response. In the rare case where he does not, you may be dealing with activity that the employee has simply never learned how to do. In this case no amount of increased reward is going to improve performance. This situation requires training not a change in contingencies. If the employee either cannot make the correct response or has never learned it, you will have to teach new behaviours rather than simply increasing the frequency of already existing ones. While the most appropriate methods for training and shaping new behaviour are similar to the behavioral management technique used to increase performance, instructions and modelling offer effective antecedent based interventions for initiating new response. Giving goals, providing instructions, and modelling a behaviour are all examples of providing discriminative stimuli (S°S). They identify responses to be rewarded. They also act as reinforcers in that individuals will make response so that they can ascertain the goal, hear the instructions. A number of studies have shown that modelling is a potent training technique (Kraut, 1976); Moses & Ritchie, 1976) but as with goal setting and many reports of instructional training, feedback is crucial to the effects.

11.3.2 Implementing a Positive Reinforcement Programme

If your data reveal that the worker makes the correct response at least once in a while, you need to design a programme that will increase the percentage of correct response. As in anything else there are some basic, general rules that you must master before you implement such a programme.



Rule 1: Reward Selection

The only way to increase behaviour without alienating the employee is to make it more rewarding to perform effectively. Before you can change the contingencies in favour of the desired behaviour, you must identify what the employee finds reinforcing. You can only discover this by observing what the employee prefers to do and how he reacts to various rewards. The greatest danger at this point is in managing and the language of the employee. If you think that you can assume that money, praise attention recognition, time-off, or any other common reward is necessarily a reinforcer for an individual employee, you are probably overgeneralising your way into failure as a behaviour manager. Remember that by definition a reinforcer increases the probability of the preceding behaviour. If the frequency of the behaviour doesn't increase, your reward wasn't a reinforcer. The kind of manager who is likely to be reading this chapter is also the kind of manager who would have trouble accepting next week as an extra paid vacation because he would believe that the lost time would interface with his performance. For such a manager both money and time-off fail to function as reinforcers.

The language of the employee leads a behaviour management project astrally when the supervisor decides that he can ask the employee what would be reinforcing rather than directly observing the effects of various rewards. Verbal behaviour is never a substitute of actual observation. At best the questionnaire approach can waste time and create paper work. At worst, it can lead the manager to punish the very behaviours that he wishes to reinforce by using the wrong opportunities as rewards for the right behaviour. Asked in the abstract, our hard-working manager might say that he would love an extra paid week off but this consequence might not reinforce when it came down to taking the time. In the research for rewards, attitude surveys may point a manager in the appropriate direction, but only direct observation of behaviour will identify specific effective reinforcers.

The baserate will tell you which consequences have led to an increase in productivity for that specific employee in the past. Nonetheless, if each manager had to start from scratch to identify unique rewards for every employee it would be a monumental task. Fortunately, a number of consequences have been identified that are likely to serve as reinforcers for most workers. Approval, social recognition, money, feedback on their performance, independence, participation, time-off, and increased responsibility offer a good place to start looking for possible rewards. One must remember though, that for any individual employee none of these rewards may be reinforcing. The variety of rewards at the manager's disposal is quite extensive.

Finding out what the employee finds reinforcing is not the only trick to reward identification. There are two other rules that are helpful in reward selection.

Rule 2: New Rewards should be Identified

Introducing new rewards workers better than trying to get more work from the old ones. When you put in a new programme that utilizes reinforcers that had previously been freely available, you are inviting disaster. If you have always given everybody who worked for you a Diwali bonus but now decided to make them earn it based on some productivity figures, you are actually removing the rewards that were in effect for just showing up. You have put the response of attending work on extinction because it is now necessary to make additional response in order to gain that same reward. Extinctions is known to produce emotional behaviour. Your worker will get upset if something that they could take for granted is now restricted so that it must be earned. If you watch the union reactions to give-backs at contract time, you know how emotional these reactions can be. It really is not necessary to risk this emotional reaction in most cases of



reward selection because there are plenty of potential rewards that go unused. In most organisations praise is so rarely offered that there is no reason to believe that employees will feel bad about being given the opportunity to earn it. The second limitation is choosing reinforcers reflects the need to establish a lasting programme.

Rule 3: Look for Naturally Occurring Rewards

Rewards that occur naturally are more effective in the long run than artificial rewards (Colins, 1981). Industry has an abundance of natural rewards to choose from. Everything from praise to profit-sharing can be made available naturally. Several systems have been developed in which a fraction of the saving over anticipated expenditure is distributed to the workers for improved performance. This kind of system is preferable to one time, tangible reinforce offered as short-term productivity incentives. If you want brief effects or a boost to get the programme going, short-term artificial rewards can be quite useful. The sales competition for the proverbial cruise to desired destination like Maldeeves gives the employees something to work for until the more natural reinforces take over. Most companies would be hard pressed to give out a trip to the islands for every competent performance every week. If your interest is in enduring high-level performance, you must have a programme of on-going, naturally available rewards.

Rule 4: Give Out Enough of the Reward so that it is Worthwhile for the Employee to Respond

For a reward to really be a reinforcer there must be enough of it to justify the employee's activity. Most of us would find Rs. 5000 rewarding, but if we had to walk 10 miles for it, it would probably not be enough of a reward to increase the probability of that behaviour. In other words, it would not be a reinforcer. It is often the case that when someone suggests providing rewards for appropriate employee behaviour, a manager will report that the company already provides incentives. Closer inspection reveals that the worker can, for example, earn a certificate for perfect attendance or a commendation for a suggested improvement. The simple truth is that these rewards are not large enough to justify most efforts by the employee, when the company makes thousands off a suggestions. Some years ago Jones and Azrin (1973) noted that a job locator fee of \$ 100 netted the Illinois State Employment Service eight times the number of jobs that were reported when a firm hand clasp was the only reward.

Providing reinforce is probably a necessary condition for producing behaviour change but it is not sufficient to be effective in an of itself.

Rule 5: Provide Rewards Contingent upon Performance of Appropriate Work Behaviours

A major problem in many organisations is that the primary reward-----salary----- is based on presence rather than performance. As a result of this arrangement, many employees appear to see taking up space at their desk as their primary functions. One might indeed ask: Why shouldn't they feel that way? After all that is what they get paid for. The only time they don't get paid is if they don't show up, so the positive consequence (salary) is obviously contingent only on the response of being present. No reward is useful if it is contingent on the wrong behaviour.

A good example of the non-contingent use of a potent reinforcer has occurred in tipping. The gratuity could be a potent reinforcer for a good service if it were contingent. on that behaviour. Unfortunately, most customers tip a standard amount whether the service was superb, adequate, or perfunctory. The net effect



is that the waiter, porter, or paperboy expects a tip regardless of performance. The provider will view the size of the tip as a trait of the customer ("a good tipper") rather than as feedback on his work.

Rule 6: Set up Reinforcers for a Behaviour so that They Follow that Behaviour as Quickly as is Practical

It is not only the gold watch at the end of fifty-years service that violated this principle. Any delayed reward is likely to be perceived as unconnected to the work behaviours for which it was delivered. For the salesman on commission or the factory piece worker the only way extra money can continue to function as a reinforcer is if the employee keeps some count of how much he is earning. If he is keeping track of his production, each time that he adds to his count is a reinforcing event. They pay at the end of the month makes such record keeping rewarding, but the immediate knowledge of increased income on the horizon is the reward for the actual work behaviours. Obviously then, if you provide such employees with immediate feedback on how much they have earned, you should get increased productivity.

Rule 7: Make Sure that Your Rewards Follow Rather than Precede the Behaviour You Wish to Increase

The immediate principle (Rule 6) holds within it is second obvious necessity for administering rewards. On the face of it, the notion that the reward, must follow the desired behaviour seems so simple minded that it is not worth mentioning. It would indeed be a trivial point if managers didn't so often violate it. As a simple example of this kind of backward conditioning take the college faculty member who is granted tenure or promotion after promising his chairman that he will spend, more time on campus and give more preparation to his classes. Of course, the professor's habitual behaviour does not undergo a miraculous change after the reward is delivered. Having thrown away his reinforcers noncontingently, the department chairman finds that the professor's behaviour gets even worse and finds himself bitterly muttering something about the faculty's lack of "gratitude". It is interesting to note that in both the cases in which we have observed this phenomenon, the chairmen were industrial psychologists. You would have expected them to know better, but they didn't. No organism works for rewards that it already has. Rewards must be earned before you give them out not afterward.

Rule 8: Make Your Rewards Contingent on Behaviour not Outcomes

The most common contingent reward systems in industry are those commissions arrangements that rewards sales personnel. Such programmes represent a highly successful use of contingency principles, but they could be even more effective. The key to behaviour management through contingent reinforcement is to reward appropriate behaviour. The usual sales commission system rewards not behaviour but the results of the salesman's actions. Like early management by objectives theory, it gives the salesman feedback on where to go but no information on how to get there. With such a system the salesman is able to identify who gets results but not what behaviours are effective. As a result sales managers are forever searching for born salesmen, but they are unable to teach good sales behaviours. The cure for this problem is embodied in Rule 8.

Rule 9: Start at the Current Level of Performance

An employee who shows up on time once a month is not likely to gain a reward that is offered for years of being prompt. Such a reward might just as well not exist for that employee. On the other hand, if he is rewarded for being on time



once a week, you are likely to produce a significant increase in punctuality. Both the manager and the employee must recognise that these rewards are but a step on the road to acceptable levels of performance. Yet this is a step that cannot be skipped. It is of the utmost importance. If the manager institutes a programme of rewarding only perfect behaviour, he better not hold his breath waiting for it to develop.

Starting at the current level of the employee is not only absolutely necessary if you are going to have any effect, it is a practical guide pro-improving what otherwise would appear to be hopeless behaviour. It forces the manager to uncover what the employee is doing correctly so that he knows where to begin his rewards system. In so doing it provides the gray area between the manager's white of perfect performance and his black of that guy never does anything right. "Even the terrible employee does some part of his job better than he' does other parts". Starting to reward at his current level you begin by reinforcing his when he performs less poorly than he usually does. "As Brethower notes, you can tell him that it is exceptionally good performance that is being rewarded because for his even minimal improvement is exceptionally good".

Just as you must begin to reinforce behaviour that the employee is currently doing well, it is most appropriate to increase the behavioral demands for rewards very slowly.

Rule 10: Reward Small Steps of Improvement Toward a Final Goal

Rule 11: Establish a System that will Overreward Rather than Underreward Behaviour

These two principles are based on the fact that you are trying to correct a deficiency. The employee who has been doing poorly is not likely to have been receiving much in the way of rewards for his efforts. He has been in act on extinction because his work performance has not been good enough to get reinforced. He is likely to have given up any hope of being rewarded. Any large increase in what is demanded of his will result in extinction occurring again because he will quit before he accomplishes enough to get rewarded. The manager must make sure that correct work behaviour does not go unrewarded. If he is too stingy with his rewards or try to move too quickly in bringing the employee's behaviour up to criterion, the employee will fail to get enough reinforcement' to keep him going.

The early Emery Air Freight manual Positive Reinforcement (1971) makes a strong case for the importance of rewarding early and often. Emery's managers are told that "any response the individual makes, however slight, toward the goal should be recognised as very important and should be strongly reinforced. This is true even if there are many steps on the behavioral scale yet to be exhibited. (You may appear to be a long way from the results goal, but you really are not).

The steps that we have described so far have dealt with reinforcers and when to apply them. We have done little with the all important topic of what to reward. The simple answer is to reward the behaviours that you want and stop looking for the behaviour that you want to increase. The key concept is to look for the behaviours that you want and stop looking for the behaviours that you don't want.



Rule 12: State Your Objectives in Positive Terms

Lists of "Don'ts" are the most obvious incorrect examples at this step, but they represented only

Table 2: Examples of FIRST Behaviour that should be Reinforced

1. Talks about performance problem even though he doesn't do anything.
2. Admits there is a problem.
3. States he was thinking about a solution even though no solution was conceived.
4. Tried, but fails.
5. Does it right one time out of a hundreds?
6. Measures performance and finds it is poor.
7. Asks a question about how to do it.
8. Offers a solution that couldn't possibly work.
9. Reduces the amount of degree of negative behaviour.
10. Completed it or does it correctly even though late.
11. Does part of it correctly.
12. Merely mentions the subject matter.
13. Recognises he made a mistake.

Source: Positive Reinforcement, Emery Air Freight, 1971.

Table 3: Finding Out What is Being Done Well

1. In the problem area (even when it makes your spitting mad), was it ever done right once out of many attempts?
2. What parts of it were done well?
3. Which results were closet to, though short of, the goal?
4. Were attempts made (even though unsuccessful)?
5. Were attempts planned?
6. Knows a problem exists?
7. Completes it, though late? On time, but incomplete? Accurate but incomplete?

Many managers complain that they too find that criticism and threats have no lasting positive effects, but that they have also had difficulty trying to use rewards to control behaviour. If they have followed the other rules that we have described, the most likely fault in their programmes is a lack of consistency. The programme that you develop must be applied systematically. Those who perform adequately must be consistently rewarded while those who fail to improve must forego the reinforcement. The manager who rewards almost achieving the goal is undermining the system. You must reward steps approaching the goal, but you cannot be manipulated into rewarding inadequate effort. The simplest example of this error is the college professor or manager who rewards people for getting their reports in early. If he also gives the same reward to the student who hands a paper in late but has a good excuse, he is teaching how to make a good alibis not how to hand in reports early. If he wants to set up contingencies for creative excuse making, that's his business, but he is undermining his attempt to get papers in on time. When it comes to delivering reinforcement you must rigidly adhere to the contingencies that you have developed or your programme will have no effect.

In 1976 Hammer and Hammer reported an extensive list of corporations that had implemented behaviour modification programmes. Included in his group were AT&T, General Motors, B.F. Goodrich, General Electric, Weyerhaeuser, American Can, IBM, Proctor & Gamble, Upjohn, Ford Motor Company, Chase-Manhattan



Bank, Westinhouse, and Whelling-Pittsburgh Steel to name just a few. In the years that have passed since the publication of their report, the number of companies that have initiated behaviour analysis projects has continued to expand. Successful behaviour modification projects have been reported throughout the airline industry, in each of the big three automotive manufacturers, and in a variety of retail applications.

Yet the surface has been barely scratched. Primitive management strategies still about while rewards are delivered noncontingently or too late to have any meaningful effect. Ineffective management techniques remain the rule rather than the exception. Direct learning of specific skill segments through shaping with positive consequences has still not replaced our over dependence on verbal instructions in learning complex behaviour, despite the success of programmed instruction. If you are a typical manager you have probably already realised that you do not get enough individual data to objectively evaluate your employees and that your employees lack feedback and realistic standards to evaluate what feedback they get.

While the industrial giants have begun to implement behaviour management programmes with notable success, in a tight economy small business remain concerned with day-to-day survival and crises management abounds. The techniques of applied behaviour analysis can improve the productivity, quality of working life, and profit margin and any business if the management is willing to commit itself to a planned programme of data collection and contingent rewards for productivity.

READING LIST

Brethower, D.M. *Behavioral Analysis in Business and Industry: A Total Performance System*. Kalamazoo, Michigan: Behaviorelia, 1972.

Brethower, D.M. and Rummel, G.A. 'For Improved Work Performance: Accentuate the Positive'. *Personnel*, 1966, 43 (5), 40-49.

Hammer, W.C. and Hammer, E.P. 'Behaviour Modification on the Bottom Line'. *Organizational Dynamics*, 1976, 4 (4), 2-21.

Herzberg, F. *Work and the Nature of Man*. Cleveland: World Publishing Company, 1966.

Komaki, J., Blood, M.R. and Holder, D. Fostering Friendliness in a Fast Foods Franchise. *Journal of Organizational Behaviour Management*, 1980, 2, 151-164.

11.4 BUSINESS AND INDUSTRIAL APPLICATIONS: A LOOK TO THE FUTURE

The studies suggest the FR and VR schedules of reinforcement may prove beneficial when properly employed in the work arena. It is to be noted that the powerful controlling properties of the chosen values were such that the performance under each schedule were comparable, despite obvious differences among studies in experimental tasks, level of difficulty and experience with the task, duration of exposure, worker characteristics, as well as form of payment. Therefore, the well documented schedule equivalence found in these studies represents a highly robust phenomenon. The following recommendations are directly derived from an analysis and review of the current literature:

1. It would appear desirable to pay for the delivery of other reinforcers to performance. While simple piece-rate payment may not suffice as the sole means by which workers are paid, making reinforcement contingent upon performance, to some extent, would increase productivity relative to that found with simple hourly payment.



2. Both CRF and VR schedules can be employed to enhance productivity relative to that found with an hourly payment schedule only. At low values (e.g., 2-4), the VR schedule may result in equivalent levels of performance as found with CRF, though at times the CRF schedule is shown to be more effective. When little time is required for learning the tasks, the VR schedule can be directly applied and may be preferable to CRF because it is less time-consuming and expensive. If considerable learning is required, the CRF schedule may be preferable because it facilitated response acquisition and eliminated the unpredictability of reinforcement found the VR schedule. It may then be advantageous to gradually shift the requirements for reinforcement to approximate those of a low VR schedule.
3. Whenever possible, the establishment of an individual payment system based on the performance of a small group of workers (e.g. 3-5) may be feasible means of facilitating productivity. Such an arrangement may improve group cohesion and on-task behaviour while removing many of the problems associated with straight forward individually-based incentive plans.
4. When using an intermittent schedule in which the values permit long period of nonreinforcement (i.e. with high schedule requirements), every effort must be made to explicate the conditions under which payment can take place. Workers should be informed of the relationship between their performance and the delivery of reinforcement to prevent a disruption in the level of productivity due to the intermittency of reinforcement. This is an expedient means of facilitating maintenance and one which easily makes contact with worker's repertoire. In point of fact, the studies reviewed here have varied significantly in the extent to which workers have been informed of the relationship between performance and reinforcer availability. This suggests that some workers were more adequately prepared to continue working in the face of nonreinforcement than others. It is to be noted that Latham and Dossett (1978) were keenly aware of the imminent cessation of work performance when placed on an intermittent schedule. They cleverly minimized the effects on nonreinforcement (e.g. reduced responding) by formally and explicitly stating the relationship between the amount of work required for reinforcement.
5. Preliminary evidence suggests that implementation of low value FR schedules may improve response maintenance relative to that found with payment based on an hourly rate. Furthermore, the FR schedule specifies the delivery of reinforcement on a more predictable basis than the VR schedule.

In sum, the issue of the vaunted superiority of intermittent schedules over CRF awaits further experimentation in the applied setting. The greatest limitation in so doing may be found in the unsuitability of a method of payment that is based on keeping the worker uninformed as to when reinforcement (e.g. pay) is to occur. This difficulty may be obviated by using low value FR schedules. Future research is required to further investigate the differential effects of CRF, FR, and VP, schedules in the work settings if this area of interest is to reach fruitful applications.

11.5 TRANSITIONAL CONTINGENCY CONTRACTING AND THE PREMACK PRINCIPLE IN BUSINESS

One of the more frequently heard criticism of the application of behavioral principles to industrial/organisational settings is that the approach requires constant, external, control. Critics argue that such control is probably impossible, and certainly undesirable, since it is antithetical to current notions that people should be given greater responsibility for directing their own work.



Behaviorists have several ways of responding to this criticism. These critics and others who adhere to the "Human Resource Model" of management often advocate shifting control to the worker as a management goal (Miles, 1965).

CONTINGENCY CONTRACTING

As the name implies, contingency contracting is a technique that entails clearly specifying all of the responsibilities and elements in a programme of behavioral change. Homme and Tosti (1971) provided ten essential rules for conducting a successful programme in contingency contracting:

1. The contract must provide for immediate reinforcement.
2. Initial contracts must call for and reinforce small approximations.
3. Reinforce frequently with small amounts.
4. The contract must call for a reward accomplishment rather than obedience.
5. Reward the performance after it occurs.
6. Attempt to impose a criterion of quality as well as of quantity.
7. The contract must be fair in the sense that the amount of reinforcement and the amount of performance bear a reasonable relationship to one another.
8. The terms of the contract must be clear.
9. The contract must be positive, avoiding the threat of punishment.
10. Contracting as a method must be used systematically.

Transitional Contingency Contracting

In Transitional Contingency Contracting, people proceed through several types of contingency contract. They move from the point of having no involvement in designing the terms of contract to having total responsibility for the contracts.

Many human resource theories of management seem to imply that workers harbour innate tendencies toward higher levels of performance and the assumption of greater responsibility. All that is required is the freedom to exercise these instincts. Behavioral theories also imply that workers can achieve higher levels of performance and assume greater responsibility, but these behaviours must be learned. Transitional Contingency Contracting is a method for teaching workers these skills.

Homme and Tosti (1971) suggest that workers proceed through five levels of contracting in their journey from total dependence upon a manager's instructions to personal responsibility for their own contracts. Some of the levels have several forms, all of which must be completed before progressing to the next level.

Level 1

In level 1, the manager selects both the Task and Reinforcement. As a task, Stark told students to draw a cartoon which illustrated a population stereotype. He assigned a different population stereotype to each student. Some of the population stereotypes were: a light switch (up is on), hot water (left tap), green (safe), red (danger), and octagon sign (stop). The cartoons were then to be taped to the wall and the class was to vote upon which was best. Reinforcement was recognition by the class for one's efforts.

Level 2

Form 1. Here the Manager selects the Task and the Worker and Manager select the Reinforcement. As a task, Stark told the class to furnish an example of a poor human factor design on campus. Through class discussion, he and his



students agreed that an acceptable reinforcement would be for each student to have the opportunity to discuss his or her example in class. This capitalized on the fact that complaining about conditions on campus is a well established reinforcing event for both professors and students almost anywhere one goes! Some of the examples that were furnished were: stairways (too narrow), classrooms (no left hand desks), rest rooms (no shelf on which to place books), doors (no window to see people on opposite side), and blackboards (too low).

Form 2. In the second form of Level 2, the Manager and Worker jointly decide upon a Task, and the Manager determines the Reinforcement. Through class discussion, it was agreed that the next task would be to draw examples of poor human factors design in the automobile. Stark decided that the reinforcement would be using the second hour of class time to survey opinions of students outside the class on the furnished examples. Some of the examples furnished by students were: speedometer (poor spacing in the main driving range; poor visiting such that it was concealed by the hands or steering wheel), headroom (low), bumper jack (unsafe, and idiot lights (too dim during daylight).

Level 3

In form 1 of Level 3, the Manager and Worker jointly decide the Task and Reinforcement. Class discussion led to agreement that student groups of three would spend two class sessions designing four different automobile dashboards and four different interiors. The reinforcement would be spending a class period questioning non-drafting students about their preferences.

In theory, the agreed reinforcement seemed a good one. There was considerable enthusiasm and competition within and between the groups. When the projects were completed, however, the drafting students were disappointed to discover that non-drafting students were so unsophisticated about human factors principles, no consistent agreement was reached about which design was superior. This would come as no surprise to a human factors engineer, who consistently watches the automobile industry produce, and the American public buy, automobiles that are poorly designed from a human factors point of view. This was an important fact for the students to learn in this kind of course, but it failed to accomplish its intended role as a reinforcement. For this reason, Stark stepped in and provided his own praise for the various designs. The students learned something besides the ignorance of the non-drafting public, however, they learned that opinions by non-drafting students would not necessarily serve as an appropriate reinforcement. Since they have participated in the selection of the reinforcement, they felt personal responsibility for the failure and they began to think of different kinds to use in the future. This is an important step in shaping the shift of control to workers. Had they not participated in selecting the reinforcement, they might simply have blamed the manager for a poor decision and taken little interest in trying to decide upon how to improve upon it. This didn't happen. The process of shifting control from Manager to Worker was taking hold.

At this point, the manager might have decided to repeat Form 1 to Level 3 until it was completely successful. Instead, he decided to proceed to Form 2 because it appeared that the class had learned its lesson and was in fact ready to continue its journey toward complete control.

Form 2. In Form 2 of Level 3 the Worker has complete control over the Reinforcement while the Manager selects the Task. Stark made the task finding an example of a design that could be considered part of the consumerism movement. The students, having learned their lesson, decided that the reinforcement would be a 1.5-minute coffee break to caucus and select candidates (by themselves) for the "Ralph Nader Award".



Some of the examples that were furnished were deposit bottles, gas mileage design since the addition of pollution control equipment, enzyme and aromatic blunders, and deception in packaging. Students agreed that both the task and reinforcement were fair and worked well.

Form 3. In Form 3 of Level 3 the Reinforcement is selected by the Manager and the Task is selected by the Worker. The students decided they would work in groups of three to select a product and define an audience for it. Stark decided to fall back upon a typical reinforcer in the academic settings, the assignment of a grade for their work. He added a twist, however, in that he asked the students to grade their own work. After they had done so, he reasserted his role as manager with control over the reinforcement and raised each of their self-assigned grades by pointing out positive aspects of their work. This was greeted with considerable enthusiasm by the students.

Level 4

Form 1. In Form 1 of Level 4 the Manager and Worker jointly decide upon the Task, and the Worker selects the Reinforcement. Through class discussion it was agreed that the students would select some examples from their current social science or humanities elective courses (General Psychology, Economics, and Technical Writing) and indicate how the principles could be applied to designing for the human element. The students decided that an appropriate reinforcement would be the granting of credit for presenting their work in the other courses. It turned out that this was easily arranged. The success of this project was succinctly described by Stark: "This one was great!".

Form 2. In Form 2 of Level 4 the Worker selects the Task and the Manager and Worker jointly select the Reinforcement. In discussing the task, the students decided that would like to try to do some actual research in the human factors area. They decided to divide into small groups, attempt to identify three areas in which research could be done, and outline where and how they would collect data on these problems. As a reinforcement, the students said they would simply like to be able to sit down with the professor and discuss which of the ideas had the greatest merit and why. The professor, as manager, readily agreed.

Three rather extraordinary things had happened up to this point in the transitional contingency contracting programme. First, the students had come to the point where they preferred working as a team rather than as individuals. Second, the students were becoming increasingly creative in their selection of tasks, rejecting routine problems for the opportunity to do original research. Third, the students were moving away from external reinforcement like coffee breaks and praise from students outside the class, and were instead satisfied with the opportunity to ponder and discuss their ideas among themselves and with an expert (the professor/manager) who could help them in their effort to do better work. In a sense, they were finding reinforcement in the knowledge that they had done a task well, and in learning how to do it even better. It is a superb example of what Blake and Mouton (1964) term "Team Management", with all the positive characteristics inherent in such an approach. The behaviourist, of course, would simply say it is an example of how people can learn self-control through a gradual shaping process.

Level 5

In Level 5 the Worker is responsible for both Task and the Reinforcement. The students quickly decided that the task would be collecting and analysing data for the best of the three projects they had designed during the previous level. The discussion about an appropriate reinforcement was an interesting one. Initially, the students said they didn't feel that any reinforcement was necessary, they



simply wanted to go ahead with the task. If they had been somewhat more sophisticated in behavioral theory, they would have realised that the feeling of accomplishment from doing a job well is a valid reinforcement, and one that lies at heart of many personalized systems of instructions. As Skinner has said, they are reinforced. by their success.

The students weren't aware of this resolution to their problem, however, and continued their discussion about a proper reinforcement. In point of fact, their problem went beyond lack of knowledge about behavioral theory. Anyone who has operated a successful PSI programme within a traditional educational setting quickly discovers that even though administrators may claim that the purpose of grades is primarily to motivate better performance, a second function is to categorise people for future employers and admissions officers at graduate and most institutions would rather see grades follow a normal curve than have students attain complete mastery of subject matter. While the students in the present class didn't articulate the dilemma in this way, the discussion reflected it in that they eventually began to focus on the instructor's obligation to grade their work. In the end, they agreed that the reinforcement would be to present their work to the other students in the class and have the instructor grade it. One couldn't help but feel, however, that real reinforcement was the work itself, and the rest was simply a condescension to the constraints of the educational system. The fact that students who were not "internally motivated were willing on their own to incorporate such external constraints into their programme to aid their professor shows just how far they had come in taking over full, realistic control of the work. Incidentally, some of the projects were: a study of the anthropometric dimensions of 28, 3 to 5-year old children, determination of the counterbore hole socket clearance for # 10 to 1-inch bolts, determination of the minimal cut-out (swing) for wrenches to tighten or loosen 4 to t-inch nuts and bolts, and calculation of optimal chair dimensions for 15 subjects over 6 feet 2 inches in height.

It should be noted that not only did the students in this programme learn to assume control over their own education; they also developed a strong interest in the subject matter. This in turn proved to be a strong reinforcement for the manager/instructor, who prior to this approach has been unable to generate students in topic.

Transitional Contingency Contracting in the Industrial/Organisational Setting

The idea of applying transitional contingency contracting to educational setting isn't new (Hommer and Tosti, 1971), although the number of actual attempts, like the one in the first example, is fairly low. Applications to industrial/organisational settings outside of educational are even rarer. The second example of transitional contingency contracting ill describe a programme in the personnel office of a large research and development center. It is double interesting because it makes frequent use of the Premack Principle, another technique with great potential but little application in the industrial/organisational setting (Luthans, and Kreitner, 1975). Because of this, it seems wise to divert our attention for a moment to the Premack Principle and to provide a relatively straightforward example of its effectiveness before seeing how it was used in a second major example of transitional contingency contracting.

The Premack Principle

The Premack Principle states that behaviours having higher probabilities of occurrence will reinforce behaviours having lower probabilities of occurrence if the higher probability behaviours. For examine, if school children are more



inclined to run-around than sit quietly in class, then running around can be used as a reinforcer for increasing the amount of quiet sitting. Likewise, if male schizophrenics spend more time sitting than engaging in productive, work, then sitting, periods can be used as reinforcers for specified amounts of work (Mitchell and Staffelmayer, 1973). Thus, in order to utilize the Premack Principle, one simply reverses the order in which activities would normally be selected in the absence of external constraints.

In order to utilize the Premack Principle in the Industrial/Organisational setting it is necessary to have two or more distinct activities that can be ranked in accordance with their probability of occurrence in the absence of external constraints, and it must be possible to arrange them in the opposite order of their natural occurrence. Fortunately, many business have tasks that meet these criteria and could take advantage of the Premack Principle. Unfortunately, managers frequently ignore this principle and are confronted with the predictable consequences. One well-known example occurs when different shifts are utilized to keep a business operating for more than the traditional eight hours work day. An often heard complaint is that people on the previous shift fail to complete their work and leave (usually the less desirable) work for the next shift. This behaviour eventually erodes morale among even the most conscientious employees and leads to similar behaviour on each subsequent shift. Eventually, the organisation may be confronted with a serious problem. Given a choice, people will do the more desirable work first and leave the less desirable work for someone else. The Premack Principle not only predicts this result, but provides a solution. The following example demonstrates this phenomenon.

Operant Terms and Concepts Applied to Industry

The operant paradigm has been employed to discover and describe mechanisms of principles which relate behaviour variations to the history of the individual organism and the environmental consequences of behaviour, past and present (Ferster and Skinner, 1957; Skinner, 1938, 1956). In order to isolate these principles, the histories and environments of organisms phylogenically lower than man were manipulated in highly controlled laboratory settings. Many of these principles have been replicated with human subjects in laboratories and in constrained field settings such as schools and mental hospitals. Successful replications with human subjects piqued the interest of some industry/ organisational psychologists concerning the paradigm's implications for theory development.

Interest in application, theoretical extension, testing, and contrasting operant conditioning and cognitive theories of individual behaviour determination has grown rapidly throughout the decade of the 1970s, the operant paradigm is still not well understood or appreciated by many applied industrial/organisational psychologists.

Locke (1980) contends that behaviorists deny the existence of cognitions, purposiveness, and intentions (Skinner, 1974). Although behaviorists in the operant tradition believe that cognitions, as cognitive theorists characterise them, are by-product of psychological brain mechanism (Skinner, 1975), they also consider the essence of operant behaviour to be purposiveness. (If one believes that Locke (1980) had accurately portrayed the operant model of individual behaviour, however, one is not likely to look for operant terms and concepts that describe purposive behaviour or behaviour which appears to result from cognitive processes in spite of the fact that terms and concepts for their description are included in the operant paradigm).

Given these misunderstandings regarding the operant paradigm, readers should not be surprised to learn that industrial/organisational psychologists tend to employ



only two of the three of a functional analysis when they describe reinforcement contingencies. They note only the response and schedules of reinforcement, punishment, or extinction. Although operant theorists (Skinner, 1953, 1969) consider individual reinforcement histories to be essential elements in describing and understanding individual reactions for work environments reinforcement histories are typically omitted when industrial/organisational psychologists describe reinforcement contingencies.

Application to Control Behaviour

Theoretically, when reinforcing stimuli in an environment are known to the behaviour modifier or change agent, a behaviour control system can be designed to obtain or increase desired behaviours and reduce undesired behaviours based on known regularities between behaviour rates and schedules or reinforcement and punishment.

Values and norms may be thought of as discriminative properties of a system which arise out of historic reinforcement contingencies maintained by a community or group. Failure to give them due consideration in the design of reinforcement contingencies aimed at performance improvement can have even more serious consequences.

One would look foolish proposing to employ a performance improvement system in an economic system if a proposed system was perpetuated when it failed to cover its costs either in improved employee satisfaction or economic profit for the system. Cost-benefit analysis, although rarely reported for such intervention, were reported by Yuki and Latham (1975). Successful maintenance of systems such as incentive pay systems may depend upon such analyses in economically rational systems and are therefore recommended. Measurement of satisfaction among those systems that place value upon its development among employees. And satisfaction with work places is known to have desirable effects on absenteeism and turnover and thus is ultimately of economic as well as humanistic value. Continuous monitoring of these behavioral correlates of job satisfaction may also indicate when workers in a system are not satisfied with a system that is more or less effectively reinforcing high performance. People will exhibit high performance and experience low satisfaction when there are few or poor alternatives available (Mawhinney, 1979). Behaviour modifiers should be sensitised in this possibility, i.e., low verbal reports of satisfaction and high performance, since it may predict future withholding of efforts and performance when the system requires it. Low reported satisfaction in survey measures ought to be a signal for management to examine current contingencies of reinforcement/ punishment in a system.

Adequate evaluation of an operant interventions requires an unambiguous identification of reinforcers, punishers, ess deltas, and discriminative stimuli in a situation. Failure to correctly identify them can lead to invalid conclusions regarding operant principles as in the Yuki and Latham (1975) experiment or inability to accurately isolate the operant process involved. An equally important element of an adequate evaluation of an applied operant principle is selection and utilisation of an appropriate research design. Other critical components are the method of data gathering within the design and methods of observation and control in the field setting.

There exist two equally difficult alternatives for adequate evaluation of such interventions. One is complete control of the environmental situations (impossible); the other is complete continuous observation of all behaviour in the environment (possible but economically unfeasible). However, an

approximation to continuous observation is possible. This is accomplished by conducting on-site observations a periodically and randomly and using multiple observers.



11.6 A SKILL TRAINING APPROACH

There is a need to investigate the efficacy of cognitive and behavioral approaches of job finding both independently and as an integrated technique using employment as the outcome measure. In the only controlled examinations of these techniques to date, Rickman (1979) compared cognitive restructuring, behaviour modification, and combined cognitive behavioral programmes in a group counseling format to regular employment services with a WIN programme. Subjects consisted of 76 female WIN participants who had children at least 6 years of age. Their length of time on welfare averaged 66.90 months, while aggregate time employed prior to the current unemployment averaged 34:71 months. The women were assigned to one of three treatment groups (behavioral, cognitive, or combined) or a control group that received the regular agency services. Those receiving group treatments also were provided with office services since this study was conducted in an actual job agency setting.

The behaviour modification programme was based on Azrin, Flores, and Kaplan (1975) but was limited to one hourly session each week for 6 weeks. Much emphasis was placed on feedback of interview responses and practice of appropriate verbal behaviour using tape-recorded samples. Two telephones were used (each an extension of the other) for job interview simulation, direct contact with employers and behaviour rehearsal. Verbal reinforcement from the group leader and group members were given for appropriate job-finding behaviours. Techniques included a buddy system, progress charts, modeling, role playing, and sharing job leads. The participants were given practice in assertive behaviour rehearsal. Worksheets for teaching telephone contact behaviours and following up job finds activities were modified from forms previously used by Azrin et al. (1975). Imagery was used to rehearse behaviour in a job interview situation, but the programme emphasised changes in job seeking behaviours rather than changing thoughts about employment.

The group receiving the cognitive restructuring treatment was based on Ellis' theory (1962) of human disturbance as applied to a vocational counseling settings. Rational emotive counseling was used to teach subjects that their irrational beliefs about an event lead to negative consequences. The result of these beliefs may be emotional such as anger of behaviours such as failing to keep an appointment for a job interview. The focus was on presenting and discussing the eleven irrational ideas described by Ellis (1962) and teaching subjects to dispute these views as they related to job situations and events in their lives. The cognitive components of rational-emotive counseling were emphasized, and the behavioral techniques usually used with RET were limited to focusing on attitudes about behaviours rather than on actual behaviour change within the group or as homework. Worksheets were used to teach how irrational thoughts lead to disturbance. The effect of changing ideas about a vocational situation, as we see about oneself, to effect less negative emotions and more productive functioning was stressed. Rational-emotive imagery was employed with a focus on self-statements about situations rather than the actual behaviour in a given situation.

The combination group utilized both the cognitive restructuring techniques and behaviour modification techniques during the six 1-hour weekly session. The first half hour of components. The control group met with employment interviewers once a week for regular job development services.



Skill Programme

There are many components to process of obtaining employment and the task becomes more problematic when working with the unemployment and a tight labour market. While there are no hard and fast rules for how to proceed in helping hard to place clients become self-sufficient, previous research and clinical observations suggests incorporation behaviour modification and cognitive approaches into a job-finding package. The purpose of such a job-findings skills programme is to increase economic self-sufficiency among those individuals who have experienced great difficulty in obtaining employment.

It is systematic programme which can be integrated into an already functioning vocational counseling settings. The utilization of his programme will provide the counselor with specific techniques to lead to beneficial changes in the behaviour, thoughts, and emotions of their clients during the job-findings process.

In general, the job-findings skills programme is likely to be most effective if the following guidelines are adopted. First, it is recommended that individual voluntarily participate in programme. Transportation vouchers should be provided if necessary. It seems likely that those with stated barriers to employment but a motivation to work may profit a time limited cognitive group to deal with their barriers before the actual job-findings behavioral are taught. The agency may also help the client by providing concrete services to take care of barriers such as child care problems.

The actual group should not exceed 10 persons, and it is preferable to have an even number of group members. The group should be conducted at least once a week for a periods of 1 ½ hours.

To assess each client's cognitive styles, the reader may want to employ an Ascertain Inventory, a Rational Belief Inventory, or some measure of self-esteem prior to treatment. Some self-rating of motivation to work may also be desirable. Worksheets to be administered throughout the programme were included in the following treatment plan. Ideally the groups should be conducted for eight weekly sessions but could be condensed to six as in this example or continued indefinitely if required. These sessions may be ongoing, but those who do not obtain employment after at least 16 weeks and have been following this procedure should be assessed further while continuing the programme.

While the steps to take are broken down by sessions, it is important to understand that the presentation of each stage of the programme may vary in areas such a pacing and level of teaching. This will be influenced by the group population, i.e., women, youth, welfare clients, as well as the settings in which the programme is conducted, i.e., state employment service, welfare office, or private career workshop. As the group leader becomes more knowledgeable about each group member, he may find that some individuals will require more time on learning cognitive skills to deal with thoughts such as, "it is better to receive Medicaid and food stamps than to obtain a low paying job". Other group members may require extra time to role play job interview behaviours before attending and actual job interview. Thus, it is recommended that the following programme he utilized as an overall guide, with an emphasis placed on defining the problems of group members and frequently re-evaluating them to make sure that the session's objectives are in line with the group members' vocational problems.

There are several specific techniques that are to be used at every session. Group members should be provided with social reinforcers such as verbal praise for specific appropriate job-related behaviours and feedback about their performance as they begin to make phone calls and arrange for job interviews.



Group members should discuss their job findings experience of the previous week and outline plans for the next week's efforts. Reference should be made to centrally located bulletin board on which job leads are posted as they are obtained by group members.

Behavioral principles offer a very direct approach to organisational problems. The approach can be described in various ways, but aside from difference in details, it usually goes something like this:

1. Specify the performance desired.
2. If it's now occurring, find out if the deficiency due to (a) inadequate job design, tools, materials, (b) inadequate knowledge and skill, or (c) inadequate incentives (reinforcement contingencies) to sustain motivation.
3. Correct the deficiency by changing the job, by training, or by better reinforcement contingencies.
4. Evaluate and recycle as needed to get desired performance.
5. Once you've got it, maintain it.

Our (or at least my) initial assumption was that people in organisations knew in general what performance was desired. They might need a little help in details specification of performance and in job design, but the areas where behavioral principles would be of most benefit were in training and dealing with motivation problems through reinforcement contingencies. (Managers assured me there were a lot of people out there who didn't know how to do their jobs or who weren't motivated).

Managers were often quite specific about what people should do. "Salespeople should check with production scheduling before promising a delivery date". Clearly the salespeople should make realistic estimates of delivery dates. In actual practice, making such estimates for a variety of jobs, some of them "new" work, can be complex and require considerable training to learn to do well. But even then, training would not be the full solution. Behavioral principles provide clear guidance for something else that is required: if making estimates that consider production's problems is to occur such estimating must be rewarded.

The salesperson's normal rewards come from generating sales revenues, selling well according to their standards of good sales practices and from interaction with customers. Their rewards do not come from solving production's problems. Consequently, special reward must be provided to encourage them to be more concerned with production problems. In some situations this would be easy to do. The plan manager or sales manager could provide occasional verbal praise for good estimating. Or a slip could be attached to each order and scheduling could make a check mark indicating whether or not the delivery estimate was attainable; the check slips could be reviewed periodically by the sales manager and commendations (or criticisms) given. The added social reinforcement contingency and management control system could solve the problem perceived by the plant manager.

Behavioral principles, properly applied, can be used to solve many training and motivational problems. Yet managers often resist using behavioral principles in the systematic fashion needed for best results. At first, the resistance to scientifically-based, practically effective principles was surprising. Why would manager resist doing something that works? If I had trouble understanding managerial behaviour in the regard, it must be because I lacked important information about the managerial environment. This was the inescapable conclusion from behavioral theory, and managers assured me that it was correct.



As one manager put it, "Professor, if you knew anything about what really goes on you'd know why this behavioral stuff you're telling us about is practically useless!". Rather than abandon a life's work, it seemed appropriate to find out what the difficulties actually were. And, as stated, the problem is complexity.

The Manager's Tool Kit

There are tools for managing complexity. Indeed, that is what management is all about. Managers bring together the tools for dealing with complex problems of organisations. Planning, organising and directing and related to finding the problems that need to be solved, finding or creating the tools to solve and bringing the tools to bear on the problems. Control (or administration or whatever we call it these days) is about assuring that the tools are brought to bear on the problems consistently and competently enough to achieve desired results.

Each part of an organisation develops better information for its own purposes. The specialised information is, by the same token, harder for other parts of the organisation to understand. This is a major reason why decision makers have too much information to sift through and end up with too little information is that we can get so caught up with internally generated information that we lose track of what is happening around us - outside our area and outside our organisation.

The too much/too little problem is a version of the specialist/generalist problem in which specialist come to know more and more about less and less and generalists come to know less and less about more and more. It is at the heart of a number of apparently paradoxical characteristics of organisations:

1. Each organisation is unique (specialist's view), yet in some ways organisations are very much alike (generalist's view).
2. No single aspect of running an organisation is conceptually difficult (generalist's view), yet when examined closely most aspects of running an organisation are quite complex (specialist's view).
3. The major areas of an organisation can be functioning very well (from each specialist's perspective), and the organisation as a whole can be running out of control and dangerously near collapse (generalist's perspective).
4. Specialists are necessary to deal with the immediate pressures of running the organisation, yet whether or not the organisation prospers in the long run is largely out of their control in the hands of generalists. (And in the hands of individual consumers in the marketplace).
5. Every major aspect of the organisation can be readily understood conceptually by generalists and in technical details by specialists; nevertheless, the interactions among the well-understood variables can be so enormously complex that they are not well understood by anyone.

Each person in an organisation shares the too much/too little problem. Subordinates allege that bosses have lost sight of how the work is actually done. Bosses express displeasure because subordinates know too little about the problems of the organisations. In the sales versus production problem we discussed earlier, each party (boss, salesperson, and production person) would agree that the others had too little information. The plant manager could rightly argue that he had too much to keep track of to bother about such details as whether a customer occasionally pressure for a special (and costly) favour. And the salespeople could rightly argue that they had too much to keep track of without worrying about cost control problems in another department.

This problem might go on for a long time to the mutual exasperation of the individual involved and to the detriment of the organisation.



The communication problem is quite real, even though pressure from customers and cost problems due to faulty 'scheduling are matters that are easy to talk about and understand. But if we get into more esoteric problems (e.g., "why can't Data Processing just take some Accounting data, combine it with some Marketing data and some information from Production Scheduling and Personnel to enable the strategic planning group to make an economic projection for a proposed new product?") we are involved in each area's jargon and idiosyncratic ways of compiling data. Data processing people love to talk about the complexities of taking bytes (or some such thing) out of incompatible data bases. It is possible to become bewildered by all that and hope that estimating parameters by Monte Carlo methods is really a more elegant procedure than taking a shot in the dark.

The sales versus production problem appears to be relatively easy to solve with behavioral tools. But we can't be sure that applying our behaviour change tools to train and then "motivate" the salespersons to call production scheduling would be the way to go. The total system implications need to be examined.

We can't just take it for granted that the plant manager's view is correct. If we go sales to be more responsive to production and less responsive to the customer, we might "fix" the perceived problem and create a real one. If we use behavioral principles effectively we can go beyond a temporary fix that washes out later on when we stop attending to it. We can design effective control systems to maintain the changed behaviour, but for all we know, this could fix) lock-in a worse problem than the one we started with. We don't want to be in the business of using behavioral principles to solve the wrong problems.

The fear that managers will use behavioral tools to solve the wrong problems is a realistic one and good reason for being cautious about embracing the systematic use of behavioral principles or any other powerful tools. Managers have many problems to deal with and many new tools to master. Managers need assistance in integrating new tools into the total context of their responsibilities. That is probably one reason behaviorists often try to sell humane philosophy along with behavioral techniques, urging a principled use of behavioral principles.

To use the behavioral principles wisely we need to do something more than specify the desired performance. We need a way of determining why the performance is desirable from the perspective of the total performance system and from the perspective of the performer. That is a tall order. Guidance is needed in selecting appropriate tools for filling it and for findings appropriate uses for powerful tools.

11.7 TRAINING FORMAT IN INDUSTRIAL BEHAVIOUR MODIFICATION

Industrial behaviour modification has clearly become an area of interest for behavioral psychologists and as yet to a lesser extent for working managers. The growth of organisational behaviour management interest groups in professional association such as the Association for Behaviour Analysis and the Association for the Advancement of Behaviour Therapy witnesses this interest. One journal (Journal of Organisational Behaviour Management, 1977 to present) and one conference (the Second Drake Conference on Professional Issues in Behavior Analysis: Organizational Behaviour Management, 1979) exemplify the growth of organisational behaviour management from the relatively isolated interest of a few to the national interest of academics of practitioners.

Despite the growth of this area, industrial behaviour modification does not yet appear to constitute a field *of* study in which degrees may be earned. University



training in industrial behaviour modification is typically housed in programmes designed for different training purposes, and non-academic training is for practical purpose quite circumscribed in the theoretical basis for organisational behaviour management.

Minimal Repertoires

Regardless of where training is housed, there appear to be three response repertoires that are recommended for training practitioners.

Behavioral

Behavioral repertoires are necessarily the most critical to a practitioner. The behavioral analytic methodology sets this person apart from all others in the management field. There is some debate about the particular structure of behavioral training, but three general sorts of training experiences seem reasonable.

Theoretical/conceptual

The initial basis for the Experimental Analysis of Behaviour, Applied Behaviour Analysis, and Industrial Behaviour Modification is the philosophy of behaviorism described by Skinner (1938, 1953) and others in a variety of sources (i.e. Behaviorism, 1972 to present). At the heart of this philosophy is the assumption that behaviour is a naturally-occurring phenomenon, and is therefore the reasonable subjects matter for a science. A second assumption holds that behaviour is related in orderly and predictable ways to environmental events., and that a study of these relations will lead to prediction and control of behaviour. Were there no orderly relations between behaviour and the context in which it occurs, attempts to understand or influence behaviour would be pointless.

Experimental

The philosophical assumptions of behaviorism led to research that identified the nature of the relations between behaviour and environment. This research, begun by Skinner (1938), and carried on by others (Journal of the Experimental Analysis of Behavior, 1958 to present) has led to the identification of basic principles of behaviour. These principles, such a reinforcement, punishment, stimulus control, generalisation, decimation, and the conditions which control them, form the basis for our understanding of how behaviour functions and changes.

The values of theory and experimental analysis is not always acknowledged by practitioners in any field. The theories and findings that indicate that the human body will float at rest are of little interest of the novice swimmer struggling furiously to keep from sinking. Similarly, the manager struggling to meet the acute demands of the day may give little credence to theory, preferring tried and familiar (of not true) methods of behavioral control. In each case, solutions may be available, but ignorance of the science prevents implementation of the solutions.

Applied

The ultimate utility of theoretical and experimental knowledge is their provision of a basis of application to "real world" problems. The importance of experimental chemical research becomes apparent when the consumer realises that the dose of his drug prescription is based on the change the drug affected in laboratory animals. The importance of basic behavioral research becomes



apparent when the manager realises that employees produce well and poorly, depending on the amount and pattern of feedback given them. Therefore, to be useful theory and research must suggest practices that make a readily observed difference in the work place.

Behavioral principles have guided behavioral applications, and the resultant behavioral technology (applied science) has been used in many fields, including education, mental health, and management. The forms of the technology may differ (e.g., a token economy in a classroom and production feedback chart in a factory), but the underlying principles remain the same. The applicability of this common technology to a variety of situations makes it particularly appealing. The technology applies to line workers and supervisor, nonexempt and exempt employees.

Finally, it is imperative that philosophy, research, and application be understood as inseparable. Without acknowledging the importance of experimentation, the technologist has no source for new information; without eventual ties to application, the theorist erects a sterile ivory tower (Miller, 1978). And without assuming discoverable order in the behaviour of people, neither experimenter nor technologist should pursue their activities at all.

The appreciation of the basic experimental and theoretical findings is of most concern at the present time. The technologist who is ignorant of the basic science is like the novice firefighter who tries to stifle a chemical fire with water - the results may be disastrous due to scanty knowledge about what causes and maintains various fires. The behavioral technologist may make analogous blunders by "reinforcing" a child's with drawn behaviour in order to demonstrate to the child that s/he is loved. The supervisor may make the same sort of mistake by ignoring poor work or by indiscriminately praising workers in an effort to create a "pleasant" work environment where production will improve. There is, of course, no reason to expect these techniques to have any desirable effect, for they are applied without an understanding of the nature. of reinforcement contingencies.

Whereas training in behaviour procedures is paramount for the industrial behaviour modification practitioner, there are knowledge areas in business that are likely to be valuable. Just as the mental health worker should know something about the nature of schizophrenia and the special educator something about the characteristics of various syndromes, the behavioral practitioner should have some understanding of the issues that confront business and industrial organisations. There is not unanimity about the emphasis placed on non-behavioral experiences in an essentially behavioral training programme.

Business

Personal Management for several decades programme of study related to the management of persons in the workplace have included a varied of courses about human conduct based on social psychological theories of motivation and personality (e.g. Maslow's needs theory, Herzberg's Motivation Hygiene theory, Cognitive Disonance). The considerable drawbacks to these theories as practical management procedures have been discussed elsewhere (Miller, 1978; Nord and Durand, 1978; Gilbert, 1978). Nevertheless, many managers have been trained in these theories, and the organisational behaviour management practitioner should be sufficiently familiar with them to point out their difficulties and suggest alternative strategies.

Another area within person management deals with working relations between union and management. The practitioner is certain to confront labour-management issues, either in management. Behaviour analysis provides tested



guidelines for contingency contracts, but familiarity with labour laws and the conventions of union-management interactions would be difficult to replace or duplicate.

The official and actual chain of command constitutes an important aspect of person management. Companies may have quite structured procedures for proposing and receiving feedback about programmes. In addition, the titular leaders may not be those who actually make programme decisions. The organisational behaviour management practitioner who overlooks the chain of command may do so at considerable peril to both programmes and job.

Production Management

The actual production of goods or services in a cost-effective manner is the ultimate goal of business. The behavioral manager would be wise to learn the process by which materials become products. This knowledge is not intended to prepare the behavioral manager to supervise production, but rather to familiarise him/her with the variables that constrain production supervisors.

Finance and Accounting

The general flow of money in an organisation is also an area about which the behaviour manager should have some knowledge. Company polity, union contracts, and other regulations may limit the extent or ease with which money can be introduced as a variable for behaviour control.

Current Events

Less formal, but still useful, is a familiarity with the events that influxes the business world on a daily basis. These might include stock market trends, national monetary policies, and events that have a more specific impact on the particular industry in which the practitioner is working. Again, knowledge in these areas is not to be the principal focus for the industrial behaviour modification practitioner, but failure to be aware of issues in these areas may significantly reduce his/her credibility and effectiveness.

Social

The industrial behaviour modification practitioner may have vast knowledge in behaviour analysis and familiarity with traditional management areas, but without certain social skills s/he will seldom see them put into practice. Although there is much less formal training involved in social skills development, a variety of writers have deemed such skills crucial to the effective delivery of behaviour change programmes (Miller, 1978).

Manager as Reinforcer

A particular interpersonal skill that can facilitate the work of the industrial behaviour modification practitioner involves the routine delivery of praise, feedback, and other appropriate positive consequences for good or improved work. The techniques, simple as it seems, is not widely practiced. When carried out, it has the effect of improving or maintaining performance, and just as important, establishing the workplace and the manager as situation which are associated with reinforcement. Having established the consequences within his/her control as reinforcers, the manager can then manage the variety of tasks for which s/he is responsible.

A second kind of social skill involved the manager's arranging for coworkers to receive reinforcers from other sources in the business. The manager can do this in effective programmes and by describing the efforts of these coworkers to



supervisors who control reinforcers. Again, this practice maintains desirable behaviour and establishes upper level company management as a resource of reinforcement.

Modelling Enthusiasm

Behaving as though problems can be solved is a useful way to provide an occasion for the solution as well as reinforcer for the solution. Such behaviour is called enthusiastic, optimistic, or positive, and involved such activities as saying that there are ways to address the issues, describing the solutions and their benefits to the company, and actually instituting the programmes.

Flexibility

There may be a variety of sound behavioral solutions to a particular performance problem. One social skill that may be of value to the practitioner is the consideration of reasonable ideas from any resource. The benefits here are to reinforce sound creative problem solving from different members of the management team and to make a problem situation the occasion for problem solving from as many informed persons as possible. Note that the organisational behaviour management practitioner does not support any proposed programme, rather s/he should support those that are behaviorally sound. Gilbert (1978) points out that there are many useful technologies that can contribute to the solution of performance problems, such as those of human factors specialists or industrial engineers.

Information Flow

A final social skill involved keeping all persons involved in an organisational behaviour management programme informed of the programme's progress. Decisions about how much information must be shared with which individuals can be made on a need-to-basis basis. It is only good sense to tell an executive whether or not an expensive programme is working, just as it makes good sense to tell a line worker that s/he is achieving 100% of the goal. Giving such information provides the opportunity for reinforcing participation of all involved and once again allows the practitioner to acquire reinforcing properties.

These categories are only broad areas within which more specific tactics can be employed. Whereas these social skills derive as contingency shaped behaviours, they have been identified more through practitioner experience than through empirical research. Despite the paucity of research in this area, the practitioner is advised to consider these categories as the basis for establishing rule-governed repertoires which is organisational community may then shape.

11.8 ETHICS OF BEHAVIOUR MODIFICATION

The question of whether managers really want to know how to control behaviour takes us from the issue of assumptions of the issue of ethics. If behaviour modification achieves its apparent potential, managers and psychologists in industrial/organisational settings will encounter ethical issues they could pretty much ignore in the past. Effective methods of control counter ethical issues they could pretty much ignore in the past. Effective methods of control are more threatening than ineffective methods. Moreover, as practically every writer of a behavioral text notes, there exist fairly widespread misconceptions about what behaviour modification is and how it is usually applied.

There are numerous past instances in which application of behaviour principles mental health facilities, prisons, and schools prompted strong negative reactions and even the banning of funds. Just recently the director of a federal programme



advised this writer to avoid any use of the term "behaviour modification" on an application, even if it meant deleting information about relevant research or experience. Similar reactions could easily occur in business settings, where governmental regulation of practices and policies is extensive. It seems probable that legal issues will also be raised, just as they were when behaviour modification was applied to other institutions (see Budd & Baer, 1976 and Friedman, 1975 for extensive discussion on legal issues in other settings).

One approach to such problems is to answer "No" to the questions: "Do managers really want to know?". In the long run, however, the strategy of avoidance is unlikely to work. In general ignorance is not preferred over knowledge, and knowledge once gained will be applied. The real question is what can be done to insure that the application of behaviour modification to industrial/organisational settings will be done in an ethically acceptable manner. Part of the task involves correcting misconceptions about behaviour modification so that people will begin discussing real issues rather than phony ones.

Common Misconceptions

It is beyond the scope of this unit to catalogue the many issues and misunderstanding that are relatively easily answered by behaviour modifiers. A few will be presented to give some idea of the form they take and the answers that are given.

Isn't it unethical to modify another individual's behaviour?

Behaviour modifiers note that we modify the behaviour of other people all the time, both in our personal and professional lives. Parents influence their children, and children influence their parents. Friends modify each other's behaviour in countless ways. Educators utilize assignments to enhance the educational development of children and rules and regulations to influence their social behaviours. Clubs and organisations utilize social pressure to alter behaviour, even to the extent of persuading members to espouse various doctrines and wear unusual attire. Ask any manager for the best way to get employees to do their work, and you are sure to get a ready answer. Even in what we term a free society, our government exerts strong controls through licensing, fines, tax laws, traffic laws, criminal and civil codes, mandatory schooling, and countless other regulations and restrictions.

The need for such attempts to modify behaviour is stated nicely by Schein (1980): of all, "First it is important to recognise that the very idea of organising stems from the fact that the individual alone is unable to fulfill all of his or her needs and wishes. The largest organisation, society makes it possible, through the coordinating of the activities of many individuals, for all of its members to fulfill their needs. Stated this way, it becomes obvious that some degree of control is not only present in most activities, but desirable. Indeed, it is difficult to imagine how anyone could avoid influencing others or being influenced by others. Even a hermit is likely to find that sooner or later someone will decide to do something to the land the hermit occupies. The issue of modifying behaviour is not unique to behaviour modification. We live with it daily and accept it.

Isn't behaviour modification worse than some other methods because it is planned rather than unplanned - intentional rather than unintentional?

Many ways in which we influence the behaviour of others are indeed unintentional. Leaders of a social organisation, for example, may not plot the methods by which they get members to accept certain values of life styles, but



the end result may in fact be strict adherence to certain modes of behaviour. Does the lack of understanding about the methods by which behaviour is being modified make them more acceptable? On the surface, it may seem so. We prefer to believe that we behave in certain ways because we choose to do so and not because someone else has made the decision for us. But if the methods used by others are effective in changing our behaviour, do we really have any greater choice if they were unknown to these people than if they were known? Obviously not.

One of the ethical guidelines which has been established for behaviour modification in treatment settings is that the patient be aware of the type of treatment and its goals before it is applied anything, behaviour modification applied in this manner is more honest and open because it is intentional. Unintentional methods of changing behaviour that are effective may actually pose a greater threat because we aren't aware of how we are being changed and what the end result will be. Moreover, at the organisational level such as in government, institutions, and business, planned change has always been the goal. Laws and regulations are made with the intention of modifying behaviour. Traditional business practices are established with the intention of influencing behaviour. Behaviour modification differs little in terms of planning or intention, except perhaps in more openly admitting what it is doing.

Aren't the techniques of behaviour modification more objectionable than the techniques associated with other methods?

This concern arises primarily from popularised accounts of some applications (and misapplications) of behaviour modification. Newspaper, magazines, and books tell of electric shock, aversive drugs whippings, starvation, consignment to bleak rooms, and the like. Make no mistake, such incidents have occurred under the guise of behaviour modification, though they are rarer than the proportion of press coverage might lead one to believe. It should be noted, however, that such incidents have occurred under the name of many other psychological methods as well. Behaviour modification hardly has a corner on the market of aversive techniques, nor has it been misapplied to greater extents than other methods. The fact is that the vast majority of programmes utilising behaviour modification emphasize pleasant methods for altering behaviour. The basic principle underlying most behaviour modification programmes is that people behave in certain ways because of what they get out of it, and most programmes are designed to insure that people achieve what they want. One reason people in industry have not accepted behaviour modification as rapidly as they might is because industry by and large, is based on aversive practices: threats of job loss, lowered pay, lack of promotion, criticism, and the like.

Behaviour modification emphasizes positive practices: praise, recognition, positive feedback, promotion, etc. It has been difficult to persuade managers who are accustomed to barking orders and complaining about mistakes to turn around and praise peoples' efforts and design conditions for success. The kinds of techniques most frequently used in behaviour modification programmes are certainly no more objectionable than other methods, and this is particularly true in the case of applications to industrial/organisational settings. One final point: perhaps the most objectionable method of all is one that promises an employee or employer a better life, but fails to achieve it. To the extent that behaviour modification works, it should be seen as a better method than those that offer only empty promises.

Wouldn't successful programme of behaviour modification cause people to lose their individuality?



The ultimate goal of any scientific endeavour is complete understanding of the laws governing the behaviour of a certain set of objects or events. As noted previously, explanation, prediction and control all hinge on knowing relevant laws. Prediction differs from explanation in that one must know the laws and antecedent conditions before an event occurs. Control is even more difficult, because in addition to being able to predict, one must be able to change the antecedent conditions in such a way that the appropriate laws will operate.

The concern about loss of individuality, or what some critics refer to as the creation of "robot people", may be valid from some abstract, theoretical standpoint, but it hardly coincides with what behaviour modifiers can do or want to do either now or in the foreseeable future. The issues of what behaviour modifiers can do and want to do are so important that they will be analysed separately.

What behaviour modifiers can do

The experimental approach to the study of human behaviour is barely a century old. Despite impressive gains, it would be foolish to believe that the current level of knowledge is anything more than primitive compared to what will be known after another century of study. Practically speaking, this means that current methods for producing the kind of rigid control some people fear simply don't exist. Even if one disagrees with his premise and believes we have discovered all the necessary laws and their subtle variations, there is another important factor which would prohibit strict control; we often don't know or can't control all the antecedent conditions.

Consider once again the plight of the physicist who wants to predict (much less control) the point of landing of a feather dropped from the Washington Monument. In the case the physicist almost certainly knows all the relevant laws affecting its flight. The physicist can even measure many of the antecedent conditions like surface area, weight, and structure of the feather, as well as direction and velocity of the prevailing wind, distance from the ground, and the exact point and nature of release. Nevertheless a perfectly accurate prediction would be close to impossible due to the sheer number of antecedent conditions and their modes of interaction as the feather drops.

The behavioral scientist is confronted with an analogous situation when it comes to prediction and controlling much of behaviour. The antecedent conditions are so vast and variable that precise prediction and control are seemingly impossible.

In the face of such complexity and resultant uncertainty, one might question whether the term "control" should be used at all. Instead, terms like "influence", "modify", and so forth might seem more appropriate. The better way to convey the fact that predictive accuracy is by no means absolute, that antecedent conditions or laws that are unknown or haven't been considered may intervene to alter the predicted result.

Despite the fact that most behaviour modifiers would agree with the preceding argument, there is a widespread tendency for writers to use the term "control". The reason for this probably because they don't equate control with absolute control. In everyday life, we talk of controlling all sorts of inanimate objects from automobiles to typewriters, yet they sometimes behave in ways that differ greatly from our expectations. The degree and precision of control can vary widely, and everyone recognised this. Still, somehow, when the term "control" is shifted from inanimate objects to humans, there arises a sense of discomfort. For this reason, writers of behavioral literature should probably try to substitute terms like "influence" for "control". This should help alleviate



some of the irrational concerns some people have about the possibility of control in any obsolete sense or the image of robot people. In addition, writers should attempt to educate readers to what the term really means when it appears in behavioral writings and to be clearer about the degree to which behaviour can be influenced.

What behaviour modifiers want to do

The preceding assurances that behaviour modification can influence behaviour but not control it completely may be small comfort to some. The fact that these techniques appear to be more powerful than any utilized previously and their apparent potential for exerting even greater influence are enough to bother some people. In response to this, it can be noted that even if fairly precise control were possible, there would be little reason to significantly alter most of the behaviour that results in people's individuality. Consider the quality control standards at a plant that manufactures cheap plastic model airplane engineer as compared to one that produces real engines whose performance determines the safety of hundreds of people. In the latter case, tolerances have to be very precise, and considerable amounts of money are spent to insure they are. In the former case, it would be foolish to worry about such precision.

Successful management is in an analogous position. Some behaviour must follow rather exacting standards, but it would be foolish to try to influence many other kinds of irrelevant behaviour, even if one could.

Consider another example based on an actual case. A district manager of gasoline stations wanted to stop declining sales. He felt that the key was to insure that customers received prompt service. He began by giving the attendants a pep talk. When this failed, he went the opposite direction and chewed the out. When service failed to improve, he instituted rules prohibiting attendants from several blocks away through powerful binoculars and firing those he caught breaking the rule. Still he heard complaints about poor service. Sales continued to drop.

Suppose the manager had used instead a method based upon behaviour modification incorporating positive reinforcement. The simplest method might be to devise a simple feedback sheet upon which attendants checked sales and evaluated their performance against standard. If sales increased by a certain amount, they would receive a bonus. This should increase such behaviours as fast and friendly service which were relevant to the goal.

Which system permits the greater freedom for the expression of individual behaviour? In the first case, the employee had the option of sitting at the desk and doing nothing until a customer appeared or being fired. In the second case, the employee had the freedom to do anything, but received positive reinforcement for behaviours that were essential to the goal.

The effective management of behaviour need not restrict individuality. It does require greater attention to what behaviours are important and what are not. This involves both practical and ethical consideration and will be discussed in greater depth later. The important point here is that behaviour modification per se should not lead to less individuality. Indeed successful methods for influencing behaviour are likely to produce greater individuality. Imprecise methods are the ones that force managers to alter a whole range of behaviours, including many behaviours irrelevant to the goal.

Can't behaviour modification be misused?

Any method that is effective in changing behaviour can be misused. The real question is whether there is something inherent in behaviour modification that



makes it more of a threat than other methods. One might argue for example, that to extent that behaviour modification is more effective than other methods, it has greater potential for misuse. There are several reasons why this argument should be rejected.

In the first place, in a situation where behavioral management is clearly warranted and necessary, ineffective methods represent a far greater threat than effective ones. For example, in the industrial settings, people's jobs and standard of living depend upon the successful functioning of the company, which in turn depends upon effective methods of behavioral management. In effective methods are a threat to the survival of the company and to the people who depend upon the company for their livelihood.

Second, behaviour modification is a two-way process. Workers can modify the behaviour of supervision by using the same techniques that are used toward them: praise, work out-put, feedback, etc.

Third, good behaviour modification programmes do not require secrecy. Quite the opposite, the most effective programmes are those in which the contingencies, goals, and consequences are clearly explained in advance. This further weakens the potential for misuse.

Finally, the emphasis on positive reinforcement as opposed to punishment further insures that, if anything, there will be less misuse within behaviour modification programmes than within many current practices that seem based upon fear, threats, arbitrary use of power, and criticism.

11.9 SELF-ASSESSMENT QUESTIONS

1. Discuss the importance of Behaviour Modification in Organisations.
2. Explain Transitional contingency contracting and the Premack Principle in Business.
3. Describe the steps involved in training counseling in organisations.
4. Discuss Ethics and Behaviour Modification.
5. How would you like to use Behaviour Modification Programme in your organisation.

11.10 FURTHER READINGS

Azrin, N.H., Flores, T., & Kaplan, S.J. Job-finding Club: A Group-assisted Programme for Employment. *Behaviour Research and Therapy*, 1975. 13, 17-27.

Brethower, D.M. *Behaviour Analysis in Business and Industry: A Total Performance System*. Kalamazoo, Michigan: Behaviordelia, 1972.

Connellan, T. *How to Improve Human Performance: Behaviorism in Business and Industry*. New York: Harper and Row, 1978.

Ferster, C. & Skinner, B. *Schedules of Reinforcement*. Appleton-Century-Crofts, 1957.

Latham, G.P. & Dossett, D.L. Designing Incentive Plans for Unionized Employees: A Comparison of Continuous and Variable Ratio Reinforcement Schedules. *Personnel Psychology*, 1978, 31, 47-62.

Lindsley, O.R. Teaching Teachers to Teach. Paper Presented at the American Psychological Association Convention, New York, September 1966.

Locke, E.A. Latham Versus Komaki: A Tale of Two Paradigms, *Journal of Applied Psychology*, 1980.



- Locke, E.A. Towards a Theory of Task Motivation and Incentives. *Organizational Behaviour of Human Performance*, 1968, 3, 157-189.
- Locke, E.A., Cartledge, N. & Koepfel, J. Motivation Effects of Knowledge of Results: A Goal-setting Phenomenon. *Psychology Bulletin*, 1968, 70, 474-485.
- Luthans, F. & Kreitner, R. *Organizational Behaviour Modification*. Glenview, Illinois: Scott, Foresman and Company, 1975.
- Mawhiney, T.C. Individual Decision Making in the Context of Hobson's Choice. Unpublished Manuscript, Indiana University.
- McCormick, E. & Ligen, D. *Industrial Psychology*, Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1980.
- Miller, L. *Behaviour Management: The New Science of Managing People at Work*. New York: John Wiley & Sons, 1978.
- Murphy, J.R. Is it Skinner or Nothing? *Training and Development Journal*, 1972, 26(2), 2-8.
- Nord, W.R. Improving Attendance Through Rewards. *Personnel Administration*, 1970, 33(6), 37-41.
- Premack, D. Catching up with Common Sense to Two Sides of a Generalization: Reinforcement and Punishment. In R. Glaser (ed.), *The Nature of Reinforcement*. New York: Academic Press, 1971, 121-150.
- Richman, D.R. *Delay of Gratification in Relation to the Rational Thinking and Demographic Characteristics of Welfare Women*. Unpublished manuscript, The Institute for Rational Emotive Therapy, 1981.
- Skinner, B. *Contingencies of Reinforcement: A Theoretical Analysis*. New York: Appleton-Century-Crofts, 1969.
- Skinner, B.F. *Science and Human Behaviour*. New York: Macmillan, 1953. Skinner, B.F. *The Behaviour of Organism*. New York: Appleton-Century-Crofts, 1938.
- Skinner, B.F. The Steep and Thorny Way to a Science of Behavior. *American Psychologist*, 1975, 30, 42-49.
- Sulzer, B. & Mayer, G. *Behavior Modification Procedures for School Personnel*. New York: Holt, Rinehart & Winston, 1972.
- Thorndike, E.L. *Animal Intelligence*, New York: Macmillan, 1911.
- Vroom, V.H. *Work and Motivation*. New York: John Wiley and Sons, 1964.
- Watson, J.B. *Psychology from the Standpoint of a Behaviorist* (2nd ed.) Philadelphia: Lippincott, 1924.
- Yuki, G. & Latham, G. Consequences of Reinforcement Schedules and Incentive Magnitudes for Employee Performance: Problems Encountered in an Industrial Setting. *Journal of Applied Psychology*, 1974, 60, 294-298.
- Yuki, G., Latham, G. & Pursell, E. The Effectiveness of Performance Incentives Under Continuous and Variable Ratio Schedules of Reinforcement. *Personnel Psychology*, 1976, 29, 221-231.
- Yuki, G.A. & Latham, G.P. Consequences of Reinforcement Schedules and Incentive Magnitudes for Employee Performance: Problems Encountered in an Industrial Settings. *Journal of Applied Psychology*, 1975, 60, 294-298.