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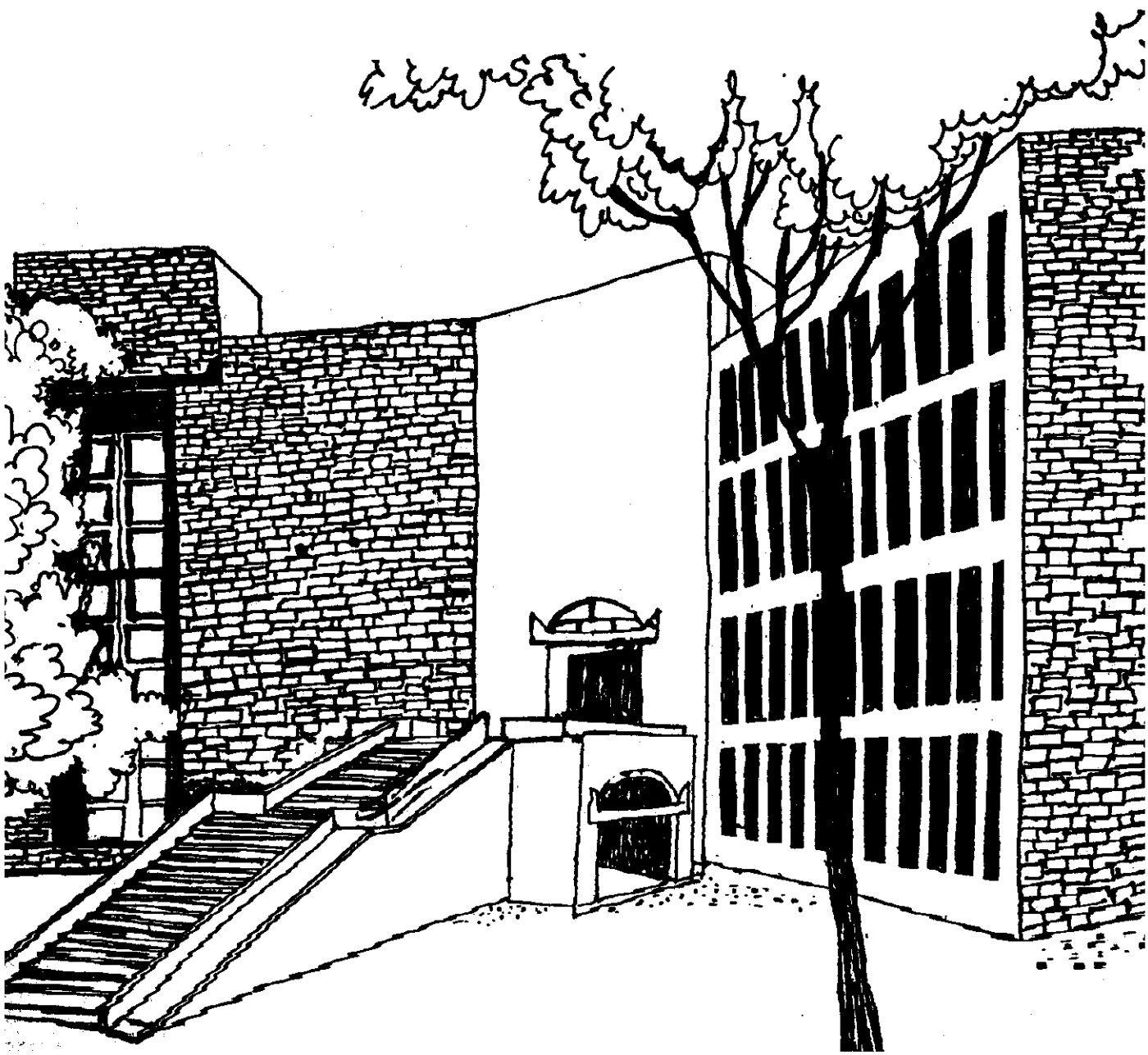

AN INTEGRATIVE STRATEGY FOR PERFORMANCE ENHANCEMENT IN ORGANIZATIONS

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Abstract

Cognitive and acognitive are two basis approaches to the study of human behaviour in organizations. Most of the literature has treated these approaches as mutually opposing and contradictory. The authors suggest that this dichotomy between the two approaches may not be all that crucial, particularly from the point of view of practical application in organizations. A study for improving performance using a performance enhancement package based on elements from both, the cognitive and the acognitive, approaches, is described. Results indicate that it is possible to combine the two approaches for effective performance enhancement in an organizational setting.

An Integrative Strategy for Performance Enhancement in Organizations

One of the fundamental questions in organizational behaviour is why do people behave the way they do and what can be done to make them behave in ways which would satisfy the requirements of the organization. Traditionally, there are two basis approaches for answering the above question. Both these approaches, cognitive and acognitive, are covered in Kurt Lewin's famous equation, B=f(PxE), that behaviour is a function of the individual (P for person) and the environment (E).

The cognitive approach considers the individual or person to be the most central element in the understanding of human behaviour. It is based on the premise that conscious mental processes such as thinking, knowing, understanding, etc. intervene between stimuli from an individual's environment and his/her behaviour. It, therefore, follows that mental concepts such as attitudes, beliefs, expectations, etc. are major determinants of human behaviour and such concepts must be understood and measured in order to explain and understand why do people behave as they do.

The acognitive approach, on the other hand, focuses on the environmental part of Lewin's behaviour equation. With its roots in the early works of Watson (1913) and Thorndike (1913), the acognitive or the behaviourist approach is most commonly attributed to B.F. Skinner (1953, 1969, 1971, 1974). The basic premise here is that environment and consequences are the basic determinants of human behaviour. The approach concentrates on observation and measurement of behaviour, and

on examining the relationships between stimuli and behaviour. It is assumed that it is possible to predict a person's behaviour quite accurately without reference to her/his thoughts or mental processes. While the early applications of this approach with the principles of operant conditioning and reinforcement were in hospitals and schools with mentally ill patients and young children, these were gradually applied to adult working behaviour in complex organizations (Luthans & Kreitner, 1975; Nord, 1969).

Both the approaches have been individually used in successful practical applications in organizations. While the results in both cases have been fairly similar and occasionally some researchers have tried to compare the two approaches with a view to find a common ground (Jablonsky & DeVries, 1972; Petrock & Gamboa, 1976), "they are so antithetical to each other that this seems impossible to accomplish" (Behling & Schriesheim, 1976, p. 41). Examples of such controversies can be found in the work of Locke (1977, 1980) and Gray (1979) where each side tends to insist that not only is their position the correct one but also that the other side is wrong. From a practical standpoint, however, application being the end result of all theoretical approaches, this either/or dichotomy between the two approaches does not seem all that crucial. The present investigation was, thus, conducted to study the effects of an integrative strategy for performance enhancement. The strategy combined elements from both, the cognitive and the acognitive, approaches. The main purpose of the study was to investigate whether a performance enhancement package based on elements from these two seemingly contradictory and opposing approaches, would result in the desired outcome of enhanced performance.

METHOD

The study was conducted in the boiler assembly and repair shop of a machinery manufacturing plant in the southeastern United States. All the 29 employees of the boiler shop were covered by the study (N=29). The performance targeted for enhancement was the safe behaviour of the employees.

The acognitive elements of the performance enhancement package were pinpointing, observation, recording, and measurement of behaviour. Specific behaviours were pinpointed through the development of a behaviour observation check list. This list was based on an analysis of the last five years' accident records, identification of unsafe behaviours which caused or contributed to accidents, and correct or safe behaviours which could have prevented the accidents. Supervisors' suggestions and other published sources of accident prevention and reduction for similar type of industries were also consulted. Observation and recording of behaviour were done on the basis of this behaviour observation check list. During each observation session, every available worker in the shop was observed and the relevant items in the behaviour observation check list were marked as being performed safely or unsafely. Observations were made in full view of the employees at varying times of the day and on different days of the week. The study lasted for forty two weeks during which a total of 323 observations were made. Each observation session resulted in one observation in the form of an average behavioural safety score. The score was computed after each observation session by dividing the

number of employees working in a completely safe manner by the total number of employees observed during that particular observation session, and multiplying by 100. An employee was considered as working safely only when he did not violate any of the behaviour observation check list items applicable to the activity being performed at the time of the observation. This measure focused attention on the positive, desired behaviours rather than undesired behaviours. Such observation, measurement, and recording of behaviour continued throughout the duration of the study. Name of individual employees observed were not recorded to prevent persecution of any single employee. Reliability of the observation procedure was checked periodically throughout the study by having two observers make concurrent yet independent observations, and was found to be generally well within acceptable range.

The main cognitive element of the performance enhancement package was goal setting. Goal setting, since its formal presentation by Locke (1968), has emerged to be one of the major theories of motivation (Campbell & Pritchard, 1976; Mitchell, 1982). It has also been noted to be "one of the most frequently tested theories in the field or organizational behaviour (with) the recent research (being) both large in number and frequent in its support" (Mitchell, 1979, p. 258). Very briefly, the theory stipulates that hard (difficult) goals result in a higher level of performance or output than do easy goals, and that specific hard goals result in a higher level of performance than no goals or a generalized goal of "do your best." The applicability of goal setting in a wide range of settings in the laboratory as well as the field has

been documented in the latest comprehensive review by Locke, Shaw, Saari, and Latham (1981). That it is a cognitive approach is obvious from Locke (1980).

The other two elements of the performance enhancement package were training and feedback. The effects of both these in improving performance have been well documented (see Goldstein, 1980 for training; and Chapanis, 1964, Ilgen, Fisher, & Taylor, 1979; Larson, 1984 for feedback). The situation about their being cognitive or acognitive is, however, not very clear. Feedback, for example, has been considered as a reinforcer (Komaki, Barwick, & Scott, 1978) making it an acognitive element. On the other hand, a case has also been made to treat feedback as a cognitive phenomenon (Locke, Cartledge, & Koeppel, 1968; Locke, 1980). It has, in any case, been shown to be "a necessary condition for goals to affect performance" (Erez, 1977, p. 624), and has been accepted as such (Locke et al., 1981).

Design and Procedure

The study consisted of three main phases: Baseline; training and goal setting; and training, goal setting, and feedback. During baseline, employees were periodically observed for fifteen weeks to arrive at the average behavioural safety performance before the performance enhancement package was implemented.

The first intervention was training and goal setting which was introduced in a 45-minute safety meeting. Employees were shown slides depicting safe and unsafe behaviours covered in the behaviour observation

check list. The check list, observation of behaviour, and computation of safe behaviour performance score were also explained to the workers. The goal setting component was introduced by asking the workers to try and achieve a safe behaviour performance goal of 95 percent. The performance level of 95 percent was arrived at on the basis of the baseline performance and in consultation with the management of the plant. The baseline performance level being 65.69 percent, goal of 95 percent was considered by the management to be hard (difficult) and challenging and also realistic and attainable. A 12 inches x 15 inches sign displaying safe behaviour goal as "95%" was posted at a prominent location in the shop where the workers would see it during the course of their normal work. This phase lasted six weeks and during this time employees were not informed of their actual safe behaviour performance. A training retention quiz was administrated just before the end of this phase to assess whether the workers had retained what they had seen in the slides. The results indicated that the workers were able to distinguish between safe and unsafe slides and behaviours very well.

The next main phase of the programme was to provide feedback to the workers about their actual performance. During this phase, a graph showing the average behavioural safety performance of the shop was displayed near the goal sign. The actual, observed average safe behavioural performance of all the workers of the shop was periodically plotted on the graph. A horizontal red line at the 95 percent on the graph highlighted the set goal and workers could easily compare the level of their actual performance with the desired performance level. The actual

performance was plotted on the graph every week during the first four weeks of this phase, and every two weeks during the second four weeks. This was followed by a six week withdrawal portion when the plotting of the actual safe behaviour performance was discontinued. During the final seven week portion, the actual performance was again plotted on the graph once every two weeks.

Response stability of each phase was checked before starting with the next phase by splitting the observations of the particular phase into two halves, computing the means of both the halves, and comparing these means with the overall mean of the entire phase. The response of the phase was considered to have stabilized if the means of the halves were within five percent of the overall mean of the entire phase (Hersen & Barlow, 1976). A check during the feedback withdrawal phase revealed the acceptance of and commitment to the goal to be quite high.

R E S U L T S

Visual analysis of graphed observational data seemed to indicate fairly strong enhancement of performance through various interventions of the performance enhancement package. The data were then analyzed statistically using the auto-regressive integrated moving average (ARIMA) analysis for time series, to check for and remove any statistically significant serial dependencies, correlated error, or non-stationary processes, through plots of autocorrelations, partial autocorrelations, and inverse autocorrelations (Box & Jenkins, 1976; McCain & McCleary, 1979). An analysis of variance (ANOVA) procedure performed on the

corrected data revealed a highly significant effect for the period or phase of the study ($F=134.86$, $df=5$, $p < 0.0001$). The means of various phases were compared through Duncan's multiple range test which revealed statistically significant differences, which were in the expected directions as discussed below.

The average behavioural safety performance during baseline was 65.69 percent which increased to 83.26 percent during the training and goal setting phase. The performance during the first part of feedback phase, when feedback was provided every week, was 97.51; percent; and during the following phase, when feedback was provided every two weeks, was 97.40 percent. During the feedback withdrawal phase when the plotting of actual average behavioural safety performance on the graph was discontinued, the performance dropped to 93.32 percent, but again increased to 96.21 percent when feedback was reintroduced in the final phase.

DISCUSSION

The results of this study tend to confirm the efficacy of an integrative strategy for performance enhancement. The results show that, at least in this study, a performance enhancement package based on a combination of elements from both cognitive and acognitive approaches to human behaviour, resulted in substantial improvements in performance. The performance enhancement was achieved without any apparent inconsistencies stamming from the two seemingly contradictory approaches. The acognitive, behaviour modification focus on observation and measurement of specific behaviour seemed perfectly compatible with the cognitive technique of goal setting.

The results of the study also tend to provide external validity of the applicability of training, goal setting, and feedback to enhance performance. Although the effects of training and goal setting were combined in this particular study, component analyses have established the individual effects of these two techniques. Reber & Wallin (1984) have isolated the effects of training and goal setting from each other, while Komaki, Heinzmann, & Lawson (1980) have isolated the effect of training from feedback. The present study also confirms the suggestion of Erez (1977) that feedback might be a "necessary condition" for goals to enhance performance.

In conclusion, the results of this study should be encouraging to those researchers who have been attempting to find a middle, integrative ground to the cognitive-acognitive dichotomy in the study of human behaviour in organizations. It seems possible to combine the two approaches for effective performance enhancement in almost any area of organizational activity. Generalizability of the findings of this study to different behaviours and with different combinations of cognitive and acognitive elements, remains a matter of concern however; and is subject to confirmation or otherwise through further research.

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