Coaching and Performance on a Simulation Exercise

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COACHING AND PERFORMANCE ON A SIMULATION EXERCISE

BY

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B.A., Stetson University, 1970

THESIS
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Selection of management personnel in industry is a difficult task, and one with important consequences. The job of the manager is composed of a multitude of skills and this tends to make evaluation or prediction of job performance more difficult (Odiorne and Miller, 1966). The consequences of poor selection decisions in management positions may be costly for a company in increased turnover, reduced productivity or effectiveness, or in poor management decisions.

One approach to the problem of management selection is the use of simulations of on-the-job situations. Exercises can be developed to provide a sample of typical work situations and candidates for selection can demonstrate the skills that they possess by attempting to deal with the problems presented by the simulated work situations. Simulations allow us to look at an individual's performance in a life-like situation without placing the individual on the job and the resultant consequences for the company if the man fails to perform well.

It is the purpose of this study to look at one type of simulation exercise, the in-basket technique (Frederiksen, 1962), and how performance on this type of exercise is affected if individuals, prior to taking the exercise, are coached on its content by other individuals that have already completed the exercise.

The use of simulation techniques has been proposed as an alternative to present selection methods (Bray and Grant, 1966; Wernimont and Campbell, 1968; Jaffee, 1971). The need for a change in the
presently popular methods of management and executive selection has been argued by several researchers (Gross, 1962; Korman, 1968; Odiorne and Miller, 1966; Dunnette and Bass, 1963).

One method which is currently used in selection or promotion of management might be called the judgmental prediction model (Grant and Silvinski, 1970). This technique involves subjective combination of test scores and/or impression to predict the possible success of an individual in a management position. This system usually relies heavily on interview data. Reliance on interview data is discussed by Dunnette and Bass (1963, p. 117):

The personal interview continues to be the most widely used method for selecting employees, despite the fact that it is a costly, inefficient, and usually invalid procedure. It is often used to the exclusion of far more thoroughly researched and validated procedures. Even when the interview is used in conjunction with other procedures, it is almost always treated as the final hurdle in the selection process. In fact, other selection methods (e.g., psychological tests) are often regarded simply as supplements to the interview.

The continued uncritical use of the personal interview offers a clear illustration of what is perhaps personnel management's prime problem—that is, the great resistance to carrying out fundamental research on its practices and techniques.

Wernimont and Campbell (1968) attack the classic validity model of selection which typically involves demonstration of a significant relationship between paper and pencil test data and some criterion of job performance. These tests were seen as signs, or indicators of the predispositions of individuals to behave in certain ways. They argue that a more fruitful approach would be to focus on meaningful samples of behavior instead of signs of predispositions, to predict subsequent job behavior.
Wernimont and Campbell propose a "consistency model" which relies on sampling of job behavior through study of an applicant's work history, limited work samples or simulation techniques. Limited work samples or simulation techniques would be employed when there is not a valid measure of past job performance in a situation similar to the work situation that the individual is being selected for. These measures of the behavior exhibited by the individual would be compared with the behaviors that have been determined in a job analysis to be needed by an incumbent in the target position.

Several advantages of the "consistency model" are proposed by the authors. They argue that since the emphasis is on actual job behavior, the effects of faking or response set could be minimized, less invasion of privacy is likely to occur, and the selection device would be less apt to be discriminatory toward minority groups. Two charges that are often leveled at tests as being discriminatory according to Doppelt and Bennett (1967) are lack of relevance and unfairness of content. Wernimont and Campbell propose that behavior sampling techniques, since they measure the actual behaviors needed on the job, are less apt to discriminate on the grounds of either lack of relevance on the job or unfairness of content to minority groups. They state (p. 375):

The examination of past behaviors similar in nature to desired future behavior, along with their contextual ramifications, plus the added techniques of work samples and simulation devices encompassing desired future behavior, should markedly reduce both the real and imagined severity of problems of unfairness in prediction.

Odiorne and Miller (1966) discuss a further shortcoming of the present selection models. They state that these methods are
mainly for low level workers. Their argument is that many available tests are good for predicting job success for low level workers but do not predict well for managerial positions which require greater complexity of necessary skills.

The classic validity model emphasizes the relationship between single predictors and job performance criteria. Simulation techniques, although they may be used in this manner, are usually incorporated as part of multiple assessment selection models. The multiple assessment technique is defined by Taft (1959, p. 333) as a selection method in which:

. . . several different types of assessment techniques are applied to the subjects and the final assessments are made by the combined judgments of several assessors concerning the subject's predicted behavior outside of the assessment situation. These procedures are 'multiple' in two senses: with respect to the techniques and with respect to the assessors.

Multiple assessment procedures were first used on a large scale for selection by German military psychologists during World War II (O S.S., 1949). The British and Americans both followed the Germans in the use of multiple assessment procedures in the screening of military officers. After the war, work was continued on individual techniques and the multiple assessment model as a whole by the British Civil Service Selection Board. In the United States, multiple assessment procedures were utilized by the Michigan V.A. Assessment Program (1946-49) and by the California Institute of Personality Assessment and Research (1950-51) to assess university graduate students (Grant and Silvinski, 1970).

One of the greatest contributions of early multiple assessment
techniques used during World War II was the development of "real life" or situational exercises. These exercises simulate "real life" situations and job behavior can be observed and evaluated under standardized conditions not found on the job. The O.S.S. assessment method demonstrated psychological problems in assessment and the value of using multiple tests, including situational or simulation exercises and observation by several assessors. Several studies have applied variations of the O.S.S. method since 1948 (Stern, Stern, and Bloom, 1956; Taft, 1959; Feysenk, 1962; Cronbach, 1970).

In the industrial setting, simulation and multiple assessment techniques have generally been used in the context of the assessment center. The term "assessment center" refers to standardized programs designed to bring candidates for management positions together for one to several days to participate in a variety of objective, situational, group, and/or projective techniques. Interviews are also commonly used to collect data by a committee which distills the results of all of the measures obtained on each individual and make predictions of the individual's probable management potential. Grant and Silvinski (1970) define assessment centers more operationally by stating: "It results in an objective and systematic appraisal of behavior in situations that test executive potential."

Byham (1970) enumerates some characteristics of the simulation aspects of assessment centers which he believes to be responsible for the high validity of the assessment center technique:

1. Simulation exercises are designed to bring out the specific skills and aptitudes needed in the position for which the candidates are being assessed.
2. The exercises are standardized so that all candidates are evaluated under relatively constant conditions.

3. The assessors usually do not know the candidates, so the possibility of bias is reduced.

4. The assessors are shielded from the interruptions of normal working conditions so that they can give their candidates their full attention.

5. The procedures focus the attention of the assessors on the primary behaviors which they ought to observe in evaluating a candidate.

6. The assessors have been trained to observe and evaluate the relevant behaviors.

The biggest drawback to the assessment center approach is its complexity which necessitates heavy investment in both time and money. This high cost factor has tended to restrict the use of the assessment center approach to higher job levels where the consequences of selection mistakes are greater.

The Management Progress Study (Bray, 1964; Bray and Grant, 1966; Bray, Campbell and Grant, 1974) conducted by the Bell System is the most extensive study into the industrial application of the assessment center method. It was started in 1956 and comprised a longitudinal study of management process of 422 Bell System employees. Simulation exercises used in the study included an in-basket, a manufacturing problem, and a leaderless group discussion. The process took 3½ days, measured 25 qualities in each individual and incorporated the use of an interview, objective intelligence tests, projective personality tests, a personal history and an autobiographical essay.

The leaderless group discussion displayed the highest correlation with nearly all factors, and correlated .60 with overall staff prediction. The in-basket results correlated .55 with overall staff
predictions and showed an interrater reliability of .92. The three simulation exercises together were found to account for 50% of the variance in the overall staff predictions in the portion of the sample that included college graduates and 35% in the non-college graduate portion of the sample.

The results of the assessment were locked away so as to not contaminate the criterion. The progress of each man was checked in 1965 against a criterion of the management level attained. Of the 55 men who had reached middle management by 1965, the overall staff prediction was correct 78% of the time. Of the 73 men that had not advanced, the prediction was correct 95% of the time. These results were significant at the .001 level and represent a marked improvement over available selection methods in predictive validity.

When the mental ability factor was parcelled out of the correlation between simulation exercises and salary level, a significant correlation remained, indicating that the simulation techniques employed in the study contributed significantly more to the prediction than paper and pencil tests alone. A later study by Wollowick and McNamara (1969) supported these findings of the substantial contributions of simulation techniques to the assessment center predictions.

More recent studies (Hinrichs, 1969; Jaffee, Bender, and Calvert, 1970; Kraut and Scott, 1972) support the findings of relatively high predictive validity of assessment centers demonstrated in the Management Progress Study. Moses (1971) presented data on 5,943 individuals assessed by Bell System companies and reported a correlation of .44 (p < .001) between final assessment rating and management
progress. Jaffee, Bender, and Calvert (1970) reported the following findings:

1. Individuals promoted as a result of an assessment center program tend to fill their new position better than those selected by traditional means.

2. The traditional means of selection provides organizations with many good supervisors, but may also provide some extremely poor ones.

3. Many individuals are given an opportunity to demonstrate managerial competency in an assessment center who would not have had the opportunity under previous conditions.

Byham (1970, p. 154) in a review of the accumulated research data from a variety of assessment centers stated:

In a survey of the 20 companies that operated centers, I uncovered some 22 studies in all that showed assessment more effective than other approaches and only one that showed it exactly as effective as some other approaches. None showed it less effective. As I suggested before, these studies exhibit correlations between center prediction and achievement criteria such as advancement, salary grade, and performance ratings that range as high as .64.

The number and type of skills that are rated for each individual varies from center to center depending on the skill requirements of the target position. Not all skills may be rated for each test or exercise. Oral communications skill, for example, may be rated in a group exercise; but may not be in an in-basket exercise or other individual tests. Assessment centers may measure as many as 32 variables as in the study reported by Wollowick and McNamara (1969). In this study, only 7 of the 32 variables that were rated contributed significantly to the multiple correlation.

Reliability data on the assessment center technique is best exemplified by a study by Moses (1973). A group of individuals was
assessed in the Early Identification Assessment Program in the Bell System and again in their more extensive Personnel Assessment Program. The correlation obtained between the overall performance ratings in the two programs was substantial for the total sample of 85 individuals (.73), as well as for each of the sub-groups of the sample (men, .77; women, .70; blacks, .68; whites, .73). All of the variables rated in the Early Identification Assessment Program were significantly related to the corresponding variable in the Personnel Assessment Program.

Interrater reliabilities from .66 to .74 for three situational exercises were reported by Greenwood and McNamara (1967). These reliabilities, however, appear to be somewhat dependent on the amount of training received by the observer. Richards and Jaffee (1972) demonstrated an increase in the mean interrater reliabilities for the human relations skill dimension from .46 for untrained observers to .78 for trained observers. For the administrative-technical skill dimension, training accounted for an increase in interrater reliability from .58 to .90.

This study deals with the specific problem of coaching of candidates in an assessment center by other candidates that have already been assessed. This problem may exist in any assessment center where all candidates do not participate in each exercise simultaneously and might be expected to be especially applicable to on-going assessment programs such as the Early Identification Assessment Program of the Bell System. The scheduling of candidates in an assessment center may permit a candidate to participate in an exercise in the morning and coach a fellow candidate on how to perform well if the second candidate
is not scheduled to take the exercise until later in the day. This may also happen in on-going programs where one employee is assessed and returns to work where he discusses the exercises utilized in the assessment center with a fellow worker who is scheduled to be assessed at some later date. This investigation is limited to studying coaching effects on one specific type of simulation exercise which is utilized in many assessment centers: the in-basket exercise.

The in-basket exercise is a situational test which simulates written material that might be found in the in-basket on a manager's desk. It typically consists of letters, memoranda, records of telephone calls and other documents and represents an attempt to simulate some major aspects of a manager's job. Items are included which provide a variety of problems which the candidate must attempt to handle.

This technique was developed in the early 1950's by Normal Frederiksen at the Educational Testing Service (Frederiksen, 1962). It was first developed to determine how well training objectives were being met at the Air Force Command and Staff School and was later incorporated as an exercise in the Management Progress Study at AT&T (Bray, Campbell and Grant, 1974). An example of an in-basket exercise (Jaffee, 1968) is included in Appendix I.

By 1960, the in-basket training technique was increasing in its use as a tool in management training and less often as an assessment tool (Lopez, 1966). Some advantages of this technique applied to training are outlined in the training guide to an in-basket exercise used by the Veterans' Administration (Veterans' Administration, 1961) which is reported in Lopez (1966):
It provides specific experience in individual decision making and problem solving.

- some of the items (problems) are connected in various ways; so it is necessary to discover interrelationships

- some of the items are considerably more urgent than others; so it is necessary to determine the relative importance of various matters

- the time is short, which requires that it be used in the most efficient manner

It provides a vivid realization that supervisory and administrative problems do not have a single answer. A group member may feel quite content with his answer until somebody else not only comes up with a different answer but also makes a good case for it.

Lopez also enumerates three aspects of situational tests that are representative of the in-basket technique applied to assessment situations. He states that situational tests involve:

1. A test situation structured to elicit the behavior to be evaluated.

2. A series of tasks to provide the participant with an opportunity to display a representative sample of his real-life behavior.

3. A system of classifying and analyzing the elicited behavior that minimizes the distortions that inevitably occur when one human being observes, recalls, and evaluates the actions of another.

The first two of these aspects of situational tests is met in the case of the in-basket exercise in that it deals with a life-like situation which closely resembles the work situation and calls for the behaviors needed to perform well on the job. The third aspect is an important consideration of using exercises such as the in-basket instead of supervisor ratings or other measures of job performance. By removing the observation of work behavior from the work setting and providing a distraction-free environment for the raters, a much more
standardized and hopefully valid measure of individual work behavior can be obtained.

Each item in an in-basket exercise should contribute to the success of the entire instrument. Lopez (1966) enumerates the criteria for development of items utilized by Sears, Roebuck and Company as follows:

1. Each item must be ambiguous to the extent that it calls for the utilization of personal judgment; that is no item could be resolved by referral to existing policy, bulletins, or other known standard operating procedures.

2. Each item should be capable of eliciting a wide range of possible solutions.

3. Each item should have high face validity in that such a situation should occur in the normal process of the business.

Additional considerations may also be taken into account when selecting items for an in-basket exercise. These might include the eliciting of as many as possible of the behaviors needed in the target position, building in the desired amount of stress if that is an aspect of the target position, and considerations of the time constraints of the testing situation and the difficulty level desired.

There has been relatively little research done on the validity of the in-basket technique and this situation is explained by Meyer (1970) as being due to the high face validity of the instrument. Meyer states that the validity of this type of exercise as a measure of managerial performance appears obvious. He performed a factor analysis of in-basket data in the form of 27 category scores out of a total of 50 category scores. These 27 were chosen because they were judged to have adequate split-half-reliability (.50 to .95). The category
scores represented scores on the different ratings taken from the in-basket such as "discusses with subordinates" or "communicates by writing." Four factors had significant loadings on more than one category score and seemed to be interpretable. They were: I. Preparation for decision, which involved "activity necessary in preparation to make decisions"; II. A related factor designated Taking Final Action; III. Organizing systematically; and IV. Orienting to subordinate needs which was not a very strong factor.

Overall ratings of individuals on the exercise were correlated with two on-the-job performance factors, a "supervision" factor and a "planning and administration" factor. These correlations were .21 and .37 respectively. The overall rating score was cross-validated on a sample of 45 subjects and correlated .43 (p < .01) with the "planning and administration" factor of the performance appraisal.

Frederiksen (1966) also reported a study dealing with the validity of the in-basket scores and other measures that would be expected to be logically and sensibly related to them. His results indicated that, in general, the relationships obtained were in directions which one might expect logically. This was found for a number of different variables which would support the existence of construct validity for the in-basket technique. Some of his findings were: those who write a lot tend to score high on the "active" scale of the Thurstone Temperament Schedule (r = .40); those who often gave directions tended to have jobs at a higher level in the organization (r = .38); and those who tended to procrastinate tended to be of low educational level (factor loading = -.33). Frederiksen states that situational tests
such as the in-basket have characteristics of large bandwidth instruments (Cronbach and Gleser, 1957), while retaining some of the discrete scores that potentially are satisfactory as narrow-band, high fidelity instruments. Large bandwidth refers to instruments designed to measure large skill or trait categories such as "intelligence" while short bandwidth instruments are those designed to measure less global skills and traits such as finger dexterity.

The problem that is confronted in this study is the problem of coaching and how it effects in-basket performance. Coaching effects on test performance has been investigated in relation to several types of tests. In studying the effects of coaching on test scores, it is important to determine whether any coaching effects are limited to the specific test items or to the general behaviors that the test is designed to predict. Coaching then only invalidates a test score when it significantly affects the score an individual makes on the test without a similar change having occurred on the set of behaviors that the test is designed to predict (Anastasi, 1968).

Anastasi (1968) outlines the findings of studies conducted in Great Britain on intelligence tests administered to 11-year-old students (Yates et al., 1953-54). The results of these studies indicate that coaching is more beneficial to individuals with deficient educational backgrounds than those with superior educational opportunities, as the latter are already prepared to do well on the test. The effects of educational experience were also examined in a study by Jaffee and Furr (1968). They found that college management students did not perform as well educated individuals with managerial experience on a test
of managerial ability. Jaffee and Furr concluded that performance on tests of managerial ability such as the in-basket used in their study was affected more by experience than college management training.

The College Entrance Examination Board (1965) in several well-controlled studies, investigated the effects of coaching on test scores on the Scholastic Aptitude Test (SAT). Intensive drills were given to individuals on items similar to those on the SAT. The results indicated that this drilling was unlikely to result in test scores significantly greater than would be expected to occur in retesting after one year of regular high school. These findings resulted in a formal statement from the Trustees of the College Entrance Examination Board which said in part:

The result of coaching studies which have thus far been completed indicate that average increases of less than 10 points on a 600 point scale can be expected. It is not reasonable to believe that admissions decisions can be affected by such small changes in scores. This is especially true since the tests are merely supplementary to the school record and other evidence taken into account by admissions officers.

The in-basket test might be considered in light of several of these findings. Since it is designed to be a sample of actual job behaviors, coaching, in order to be of benefit, might have to generalize to the entire set of job behaviors that the test is designed to predict unless the contents of the specific in-basket test is known by the individual doing the coaching. This viewpoint might be proposed because the test is designed as a limited sample of the actual job behavior instead of just an item designed to predict that behavior. Coaching might also be expected to be a more difficult task for a situational test such as an in-basket exercise due to the wide variety of skills
necessary to successfully complete the exercise and the wide range of possible good solutions.

The findings of the Yates et al. (1953-54) studies are interesting in that they indicate the influence of past educational background on the effectiveness of coaching. It may also follow that differences in managerial experience may influence the effectiveness of coaching on in-basket scores. While this is an interesting area, it is beyond the scope of the current study.

One additional study of coaching effects reported by Ortar (1960) indicates that a test administered after extensive coaching was a more valid indicator of success if emigrant children came from a wide variety of educational backgrounds and coaching might be needed by some more than others in order to reflect true scores more accurately.

Anastasi (1968) concludes that "coaching may affect test scores in diverse ways, depending on specific circumstances." She further states that coaching may raise test scores but that this may have the effect of either raising or lowering test validity.

A study which did look at the effects of prior experience with a simulation technique on performance on a similar instrument was reported by Burroughs, Rollins and Hopkins (1973). This study was designed to look at prior experience as a rater on a group simulation exercise on subsequent performance on another group simulation exercise. Both exercises were of the leaderless group discussion (LGD) type in which a group of individuals without an assigned leader must work together to solve a common problem. Although the subjects in the study were not subjected to an extended training period in how to
rate or the amount of rating as they would if they were raters at an assessment center, they were familiarized with the types of behaviors that are typically measured in LGD exercises and were allowed to observe and rate performance of others on a leaderless group problem. The results indicate that viewing the performance of others and having access to the definitions of the measured traits did not lead to improvement in performance on a similar leaderless group problem.

A recent study by Petty (1974) reported significant effects from a 15 minute training session on performance by subjects in a leaderless group discussion. The training consisted of an explanation of the traits that were to be scored and how to perform well in the exercise. An additional finding of the Petty study was that prior experience in participating in an LGD did not improve performance on a subsequent exercise.

The present study deals with prior experience with a similar exercise rather than coaching by another individual that has had experience with the same exercise, as in the case of the present study. Personal experience may be more beneficial to one person than to another. The Burroughs, et al. study involves only one person interpreting the experience and does not rely on the quality of the coaching or differences in how much a second individual may gain from being coached. Two important differences exist between the present study and the Burroughs et al. study. The first is that although both deal with simulation exercises, the present study involves experience of the coach with the same exercise as the coached subject will take. This will allow testing of specific details to be given to the subject by
the coach. Different but similar exercises were used in the Burroughs et al. study. The second difference is that of the type of exercise used. The present study uses an in-basket exercise which is comprised only of material on paper. The group exercises utilized in the Burroughs et al. study involve face-to-face encounters with other group members and performance is more apt to be influenced by the performance of others and by the quality and amount of oral communications (as versus written in the case of the in-basket).

The present study looks at performance on an in-basket exercise as measured by ratings of each individual on four dependent measures. The four measures are: (1) Perception; (2) Organizing and Planning; (3) Decision Making; and (4) Human Relations Skills. These skills were chosen because the author feels that they are representative of the type of skills common to most managerial jobs and frequently utilized in a variety of assessment applications.

For the purpose of this study, perception is defined as including time perspective, the ability to perceive future implications, the perception of problems and the relationships between problems and the perception of human strengths and weaknesses.

Organizing and planning is defined as including preparation skills, organization of data, handling data in a systematic manner and setting objectives and priorities.

The decision-making dimension includes the willingness to make decisions given adequate data and making decisions based on all available data.

The definition of human relations skills deals with the
subject's attitude toward others and includes openness to ideas, feelings and values of others and concern for the feelings of others.

The present study manipulated the delay between the time the coach is given the exercise and the time he actually coaches the subjects. Two levels of delay in coaching were used in this study: No-delay and one-week delay. A control group that received no coaching was also used. In industrial applications of assessment centers, candidates may be scheduled to take an in-basket test at different times on the same day and the first candidate to take it may coach a candidate who will take it later. A no-delay condition allowed the coach to coach the subject as soon as he finished the exercise and had been interviewed on his performance. Another application of assessment centers is the on-going assessment center utilized by such companies as AT&T (Moses, 1973). In this type of center, a candidate may attend the center and later, back on the job, coach another candidate who may be scheduled to attend the center the following week or month. A one-week delay condition between the time the coach takes the exercise and the time he coaches the subject was utilized in this study to try to study the effects of delay in coaching on subject performance. In both conditions, the coached subjects take the in-basket exercise as soon as they have been coached in order to maximize the effects, if any.

In the present study, the person to be tested receives second-hand knowledge of the test from the coach but this knowledge is about the actual items on the test that he is about to take. The findings of the College Entrance Examination Board (CEEB) study may therefore not generalize to the present study as the CEEB study involved direct
access to items similar to those on the test but not actually the same items. Different types of tests are also utilized in the CEEB and the present study.

The coaches in the present study were interviewed after taking the in-basket. They were interviewed to learn more about their responses on the exercise and the reasoning behind them. This type of interview is often utilized in in-basket applications (Crooks, 1968). The coaches were not given feedback on the degree of correctness of their responses in the interview. For this reason, the coach may pass recommendations to the subject that may benefit or may be detrimental to the performance of the subject because the coach may not know which of his own responses were correct. Because of this, the prediction of this study was that coaching would not produce a significant beneficial effect on mean subject scores in either the no-delay or one-week delay conditions for any of the skills measured. Since both beneficial and detrimental information can be passed from coach to subject, the within group variance for the coached group would be expected to be greater than that of the non-coached group if coaching is having an effect which is not constant over subjects. Since the coaches were not told on what traits they were being rated, we might expect skills such as perception and decision making to be discussed more between coach and subject as these traits deal with problems that are on the surface, at least, more obviously important to success in the exercise than are problems relating to many of the aspects of the other two traits in this study. For this reason, it is hypothesized that differences in within group variances between coached and non-coached subjects will
exist only for perception and decision making skills.

If coaching has an effect on the performance of those coached and if this effect is not constant over the different skills measured, we might expect to find that the intercorrelations of scores on the four skills for those subjects that were not coached would be higher than the intercorrelations of scores for those that received coaching. This finding might be expected if variance other than the normal within subject variance over the skills measured is added by the coaching. That is, a subject may receive beneficial information concerning one skill and detrimental information about another skill. The effect of this would be to overestimate the true level of the first trait and underestimate the true level of the second. Since the affected skill may vary over subjects, this coaching effect might not produce significant mean differences, but would tend to lower the intercorrelations of the subjects' scores between different skill areas. For this reason, we would expect to find lower mean intercorrelations of skill area scores among coached subjects than among control group subjects.
Method

Subjects

Male students enrolled as undergraduates at Florida Technological University participated in the experiment. Thirteen subjects were assigned to each of the three treatment conditions: no-delay coached, one-week delay coached and a control group that did not receive coaching. This made a total of 39 subjects. Subjects were paid two dollars for participating in the experiment, and those subjects that returned a week after participating in order to coach another subject received an additional one dollar.

Materials

A modified version of the Geometric Company In-Basket (Jaffee, 1968) was given to all subjects in the experiment. This exercise consisted of letters, memoranda and phone messages from the in-basket of a manager at the fictitious Geometric Company. The exercise was mimeographed for use in this experiment and subjects made their responses to the items in the exercise by making notes, dictating letters, outlining agendas of meetings they wished to call, or outlining planned phone conversations. These actions were recorded by the subjects on the item in the exercise to which they pertained or on blank paper that was supplied to them. A copy of the modified Geometric Company In-Basket is presented in Appendix I.
Procedure

Subjects assigned to the control group were individually placed in a small room and given the in-basket exercise. Subjects were allowed 45 minutes to complete the exercise. Upon completion of the exercise they were interviewed by the experimenter to clarify the actions they took on the exercise and determine their reasons for taking these actions. The experimenter took notes on the actions of the subject on the exercise and these were attached to the completed exercises and assigned a random number. This was done for all subjects to insure impartiality in rating as the raters did not know to which treatment group the exercise that they were rating belonged. No feedback was given in the interview that would indicate the degree of correctness of the responses made by the subject. The interviews lasted approximately 15 minutes.

At the end of the interview the control group members acted as coaches for the no-delay condition subjects. They were instructed to attempt to enhance the performance of the subject they were coaching by telling him any information that he felt would be of value to the subject in taking the exercise. The subject to be coached was instructed that the person that was to coach him had already taken the exercise and was trying to help him improve his performance. The coach and the subject were then placed together in a small room for a period of 15 minutes. At the end of this time, the no-delay subject followed the same procedures outlined for the control group subjects for taking the exercise and being interviewed upon its completion.

The control group subjects after having coached a no-delay group subject were scheduled to return at the same time one week later
to coach a subject from the one week delay treatment group. The coaching, administration of the exercise and interview procedures used for the one-week delay group subjects were the same as were used for the no-delay subjects. No exercises were scored until all subjects had been run.

Three subjects were chosen at random from each of the three treatment groups and their finished in-baskets were rated separately by three raters each of whom was familiar with in-basket rating procedures. Scoring procedures used were similar to those outlined by Crooks (1968) utilizing trained raters. Each of the four skill measures was rated separately for the entire group of nine subjects. This procedure was followed in order to obtain a measure of interrater reliability for each of the dependent skill measures. The balance of the exercises were scored by one rater who scored one skill area at a time for all the remaining subjects and was unaware of the treatment condition that each exercise came from.

The scores were recorded on a rating form which is presented in Appendix II. The scoring procedure yielded numerical scores from 1 to 5 for each of the four skill areas measured. The scores that were used as the dependent measure in this study were those for each skill that were assigned by the single rater who scored the exercises of all subjects. Information about correct responses was supplied to each of the raters before the exercises were scored and this information is provided in Appendix III.
Results

The dependent measure was the numerical score assigned to each subject by the rater for each of the four skills measured in the in-basket exercise. Hoyt's reliability coefficient was computed for each skill on the scores obtained by the separate scoring of the sample of nine subjects' exercises by three raters. This procedure yielded interrater reliabilities of .97 for Perception, .75 for Organizing and Planning, .95 for Decision Making, and .96 for Human Relations.

A one-way fixed-effect analysis of variance was computed for each skill to examine differences that might exist between the three treatment conditions. The source tables for each of the four analyses of variance are presented in Tables 1 through 4. None of the computed F statistics was significant at the p < .05 level. This finding tends to support the hypothesis that coaching does not have a significant effect on those subjects that were coached on their performance on an in-basket exercise.

Bartlett's test of homogeneity of variance was computed for each of the skill areas as a test of the hypothesis that coaching leads to greater within group variance. The within group variance, chi square value yielded by Bartlett's test, and its approximate probability of occurrence are presented in Tables 5 and 6. The only significant finding at the p < .05 level was found on decision making skill. An examination of the cell variances indicates that the difference is due primarily to the relatively small variance in the week-delay coached
group. This finding would not tend to support the hypothesis of coaching leading to more variability in scores as the difference is in the wrong direction.

**TABLE 1**

*Source Table for Analysis of Variance of Perception Skill over Three Treatment Conditions*

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>MS</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment</td>
<td>2</td>
<td>.2564</td>
<td>.026</td>
</tr>
<tr>
<td>Error</td>
<td>36</td>
<td>.9872</td>
<td></td>
</tr>
</tbody>
</table>

F_{.95(2,36)} = 3.28

**TABLE 2**

*Source Table for Analysis of Variance of Organizing and Planning Skill over Three Treatment Conditions*

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>MS</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment</td>
<td>2</td>
<td>.1026</td>
<td>.130</td>
</tr>
<tr>
<td>Error</td>
<td>36</td>
<td>.7906</td>
<td></td>
</tr>
</tbody>
</table>

F_{.95(2,36)} = 3.28
### TABLE 3
Source Table for Analysis of Variance of Decision Making Skill over Three Treatment Conditions

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>MS</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment</td>
<td>2</td>
<td>.0487</td>
<td>.332</td>
</tr>
<tr>
<td>Error</td>
<td>36</td>
<td>.7906</td>
<td></td>
</tr>
<tr>
<td>F.95(2,36)</td>
<td></td>
<td>.328</td>
<td></td>
</tr>
</tbody>
</table>

### TABLE 4
Source Table for Analysis of Variance of Human Relations Skill over Three Treatment Conditions

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>MS</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment</td>
<td>2</td>
<td>2.0256</td>
<td>1.782</td>
</tr>
<tr>
<td>Error</td>
<td>36</td>
<td>1.1368</td>
<td></td>
</tr>
<tr>
<td>F.95(2,36)</td>
<td></td>
<td>.328</td>
<td></td>
</tr>
</tbody>
</table>

### TABLE 5
Source Table for Bartlett's Test of Homogeneity of Variance Computed for Each Skill over All Treatment Conditions

<table>
<thead>
<tr>
<th>Skill</th>
<th>X²</th>
<th>df</th>
<th>Probability Approx.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perception</td>
<td>1.774</td>
<td>2</td>
<td>.412</td>
</tr>
<tr>
<td>Organizing &amp; Planning</td>
<td>5.082</td>
<td>2</td>
<td>.079</td>
</tr>
<tr>
<td>Decision Making</td>
<td>6.304</td>
<td>2</td>
<td>.043</td>
</tr>
<tr>
<td>Human Relations</td>
<td>.376</td>
<td>2</td>
<td>.829</td>
</tr>
</tbody>
</table>
TABLE 6

Table of Independent Group Variances for Each Skill Area for Subjects in Control, No-Delay and Week-Delay Conditions

<table>
<thead>
<tr>
<th>Group</th>
<th>Perception</th>
<th>Organizing Decision &amp; Planning</th>
<th>Making</th>
<th>Human Relations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>1.10</td>
<td>1.40</td>
<td>1.03</td>
<td>.91</td>
</tr>
<tr>
<td>No-Delay</td>
<td>1.27</td>
<td>1.74</td>
<td>1.09</td>
<td>1.23</td>
</tr>
<tr>
<td>Week-Delay</td>
<td>.58</td>
<td>.36</td>
<td>.26</td>
<td>1.27</td>
</tr>
</tbody>
</table>

The 13 subjects in each of the two experimental treatment groups were divided into subgroupings for each skill area depending on the score that the control group member that coached them achieved on that skill. If the coach received a high score (1 or 2) on a skill, the subjects that he coached were placed in the high coach score group. If the coach received a medium or low score (3, 4, or 5) on a skill, the subjects he coached were placed in the low coach score group for that skill. The cutting scores used to establish what was high and what was low (2 and 3 respectively) were utilized because they resulted in the most nearly equal group sizes. These cutting scores can also be justified on a practical basis. The main applications of the assessment center technique are for higher management. The selection ratios for managers to be promoted to higher management positions is typically low in most organizations once you reach the higher management level due to limited job vacancies. For this reason, the author felt that it is typically important to be able to discriminate between average and
above average performing individuals. The cutting scores utilized in this study meet that criteria in that they cut just above the middle or "average" score. For the Perception skill area, there were five subjects in the high coach score group and eight in the low coach score group. For Organizing and Planning and for Decision Making, there were six subjects in the high coach score group and seven in the low coach score group. The groupings on the Human Relations skill were four and nine subjects respectively for the high and low coach score groups. The rationale behind grouping the experimental treatment group subjects in this manner was that better quality information was expected to be passed from coach to subject if the coach had better quality information to pass as evidenced by a high score on a skill. This might be expected to be especially important as both beneficial and detrimental information could be passed on by the coach.

Bartlett's test of homogeneity of variance was computed for high and low coach score groups over no-delay and week-delay conditions for each skill. The results of this analysis are presented in Table 7. The group variances for each skill were seen as not having violated the homogeneity of variance assumption at the $p < .05$ significance level.

A two-way analysis of variance utilizing the unweighted means method was computed on the scores of the subjects in the high and low coach score groups over the no-delay and week-delay conditions for each of the four skills. The source tables for these four analyses are presented in Tables 6 through 9. None of the computed F statistics was significant at the $p < .05$ level. This finding supports the hypothesis that the score of the coach does not have a significant effect on the outcome of the coaching given by that coach as measured by the
performance of the individuals that received the coaching on an in-basket exercise.

**TABLE 7**

Source Table for Bartlett’s Test of Homogeneity Variance Computed for Each Skill for Low and High Coach Score Subjects in No-Delay and Week-Delay Conditions

<table>
<thead>
<tr>
<th>Skill</th>
<th>$X^2$</th>
<th>df</th>
<th>Probability Approx.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perception</td>
<td>3.804</td>
<td>3</td>
<td>.284</td>
</tr>
<tr>
<td>Organizing &amp; Planning</td>
<td>3.256</td>
<td>3</td>
<td>.354</td>
</tr>
<tr>
<td>Decision Making</td>
<td>4.715</td>
<td>3</td>
<td>.195</td>
</tr>
<tr>
<td>Human Relations</td>
<td>1.208</td>
<td>3</td>
<td>.751</td>
</tr>
</tbody>
</table>

**TABLE 8**

Source Table for Analysis of Variance of Low vs. High Coach Score Subjects and No-Delay vs. Week Delay Conditions for Perception Skill

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>MS</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coach Score (A)</td>
<td>1</td>
<td>.9615</td>
<td>.104</td>
</tr>
<tr>
<td>Delay Condition (B)</td>
<td>1</td>
<td>.3846</td>
<td>.042</td>
</tr>
<tr>
<td>AXB</td>
<td>1</td>
<td>1.8615</td>
<td>2.012</td>
</tr>
<tr>
<td>Error</td>
<td>22</td>
<td>.9250</td>
<td></td>
</tr>
</tbody>
</table>

$F_{.95(1,22)} = 4.30$
### TABLE 9
Source Table for Analysis of Variance of Low vs. High Coach Score Subjects and No-Delay vs. Week-Delay Conditions for Organizing & Planning Skill

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>MS</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coach Score (A)</td>
<td>1</td>
<td>.1319</td>
<td>.222</td>
</tr>
<tr>
<td>Delay Condition (B)</td>
<td>1</td>
<td>.6154</td>
<td>1.034</td>
</tr>
<tr>
<td>AXB</td>
<td>1</td>
<td>.0037</td>
<td>.006</td>
</tr>
<tr>
<td>Error</td>
<td>22</td>
<td>.5952</td>
<td></td>
</tr>
</tbody>
</table>

\[ F_{.95}(1,22) = 4.30 \]

### TABLE 10
Source Table for Analysis of Variance of Low vs. High Coach Score Subjects and No-Delay vs. Week-Delay Conditions for Decision Making Skill

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>MS</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coach Score (A)</td>
<td>1</td>
<td>.4039</td>
<td>.619</td>
</tr>
<tr>
<td>Delay Condition (B)</td>
<td>1</td>
<td>.0082</td>
<td>.013</td>
</tr>
<tr>
<td>AXB</td>
<td>1</td>
<td>1.3929</td>
<td>2.134</td>
</tr>
<tr>
<td>Error</td>
<td>22</td>
<td>.6562</td>
<td></td>
</tr>
</tbody>
</table>

\[ F_{.95}(1,22) = 4.30 \]
TABLE 11

Source Table for Analysis of Variance of Low vs. High Coach Score Subjects and No-Delay vs. Week-Delay Conditions for Human Relations Skill

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>MS</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coach Score (A)</td>
<td>1</td>
<td>1.0267</td>
<td>.780</td>
</tr>
<tr>
<td>Delay Condition</td>
<td>(B) 1</td>
<td>3.8462</td>
<td>2.921</td>
</tr>
<tr>
<td>AXB</td>
<td>1</td>
<td>.0011</td>
<td>.001</td>
</tr>
<tr>
<td>Error</td>
<td>22</td>
<td>1.3169</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>$F_{.95}(1,22) = 4.30$</td>
</tr>
</tbody>
</table>

The hypothesis that intercorrelations of scores would be lower for coached subjects was tested by computing the intercorrelations of the four dependent skill measures for the control group (not coached) and the two experimental treatment groups. For the control group, the intercorrelations between the four measures ranged from .54 to .83 with the mean correlation being .70. For the no-delay group, the range was from .26 and .69 with a mean of .48 and for the week-delay group, the range was .39 to .59 with the mean correlation being .47. The differences in the means of the intercorrelations of scores is in the direction predicted by the hypothesis that coaching does have an effect on the intercorrelations of scores. The significance of this difference was tested by performing a Fischer $R$ to $Z$ transformation on the mean intercorrelation for each of the three groups and computing the differences in the $Z$ values corrected for the variance of the difference between the $Z$ values (Hays, 1963, p. 532).
The Z scores that resulted from this analysis were: .78 for the comparison between control and no-delay coached groups; .79 for the control and week delay coached groups comparison; and .02 for the comparison between the two coached groups. In all cases, there were 13 degrees of freedom. None of the obtained Z scores was significant at the $p < .05$ level ($Z_{.95} = 1.96$). Although the differences in the mean intercorrelations were in the direction predicted if the hypothesis that coaching effects intercorrelations of scores were true, the differences were not significant and this would not tend to give much support to the hypothesis.
Discussion

Interpretations

The findings in this study were generally comparable to other studies of coaching on test performance where relatively well-educated subjects were used (CEEB, 1965; Yates et al., 1953-54). The results of the study were also in accord with the predictions that coaching would not have a significant effect on performance on an in-basket exercise. No significant effects were obtained resulting from no-delay or one-week delay coaching on subsequent performance on the exercise except for the lack of homogeneity of variance of scores for Decision Making skill. This finding, although significant, was not in the direction predicted by the hypothesis that coaching would lead to greater variability of scores. It is difficult to determine the cause of the relatively low variability of scores obtained by the week-delay coached group on three of the four skills. Conceptually, Human Relations skill might be expected to be coached less due to the fact that the in-basket exercise appears, on the surface, to deal primarily with Decision Making skill and since control group subjects were not given feedback on their performance on the in-basket, they might not be expected to emphasize Human Relations skills to the extent that they do the more obviously scoreable skills such as Decision Making or Perception. Coaching, then, might account for differences in the variability in the week-delay group for Decision Making skill, but not in the direction predicted. Coaches might for example forget what decisions
they made the preceding week and relate only a few decisions that they were sure about. This contention might explain some of the lack of variance in the week-delay coached group except that a decision easy enough for most coaches to have gotten correct and to remember would probably be easy enough for the week-delay subjects to make correctly without coaching. Another possibility is that the coaches changed their mind during the week about certain decisions. Both of these possibilities do not, however, explain the lack of mean differences between groups that would tend to follow if they were true.

Although the conclusions of this study must remain guarded due to the finding of less variability in the week-delay Decision Making scores indicating the possibility of coaching effects, the majority of the data presented in this study tend to indicate that coaching does not have a very great effect on scores of subjects on an in-basket exercise.

The coaching given in this study was allowed to vary naturally as it does in an assessment situation in industry. The coaches did not know how well they had done or which of their responses were correct when they acted as coaches for other subjects. It might be assumed that the quality of the information passed to subjects by coaches that had given correct responses when they took the exercises and thus had these correct responses available to pass on would give a greater amount of correct information than those coaches that gave poorer quality responses on the exercise. This relationship between coach score for each skill and subsequent performance by the coached subject was investigated for both the no-delay and week-delay coached conditions. The
results failed to show a significant effect of coach score on performance for either delay condition. This finding also supports the prediction that coaching will not have a significant effect on performance.

If coaching has an effect on performance on an in-basket exercise, and that effect is not constant over four diverse skill areas as we might expect, then we would expect the intercorrelations of scores on the four skills for subjects that had not been coached to be higher than those for coached subjects, as explained in the introduction of this paper. We would expect this because of the extra variance added by the coaching to the scores of the coached subjects. The results obtained in the study were in the right direction with the mean intercorrelation of both coached groups being lower than that of the non-coached group. This difference, although in the right direction, did not reach significance. This result was interpreted as indicating that coaching did not add significant common variance to the four skills' mean intercorrelations of scores and this result also supports the prediction made in this study. Within the limitations of the design incorporated in the present study, no significant effects of coaching were noted except for variance differences for Decision Making.

Confounds and Controls

The subjects that participated in the study were primarily upper division undergraduate students with some lower division students. These subjects might be expected to be somewhat similar to college graduate management applicants that might be assessed with an in-basket for selection purposes as is done by Sears, Roebuck & Company (Lopes, 1966). These subjects would be expected to be similar to job appli-
cants on dimensions such as test sophistication since they have both been subject to testing throughout their education although neither group is apt to have a great deal of experience with management exercises such as the in-basket. Anastasi (1968) concludes that individuals that have a good educational background and are relatively sophisticated in their test taking ability are less likely to benefit from coaching than individuals that do not have these characteristics. From this we may infer that the results obtained in this study may be more applicable to new job applicants who are college graduates or employees with managerial experience than to selection procedures involving selecting potential managers from blue collar employees who may not have as much educational background, management experience or test sophistication. A similar study involving less highly educated subjects might produce different results. The in-basket exercise has historically been used primarily on higher level positions and it is to these applications that the present study deals.

The design of the present study was selected to deal with the question of the effect of coaching that may occur in an industrial application of an in-basket exercise on the overall selection decisions that are made. Variables such as credibility of coaching source and the quality or quantity of coaching given to an individual subject were not looked at in this study. The credibility of the source was somewhat controlled for in the introduction of the coach to the subject to be coached in that all coaches received the same introduction. The quality of the coaching expressed in terms of the correctness of the information possessed by the coach as he enters the coaching situation
was discussed earlier in this paper. The ability of the coach to express his opinions to the coached subject was not controlled for in the present study.

Implications

The implications of this study must be restricted to selection for higher management positions or other situations involving selection from individuals with a good educational or managerial background. Managerial background might be more important than education on in-basket performance due to the types of skills that are measured on the in-basket exercise, as demonstrated by Jaffee and Furr (1969).

The extent to which the results of this study on in-basket exercises can have meaning for other types of simulation exercises depends upon the similarity of the other exercises to the in-basket. Some other simulation exercises, notably individual problem solving exercises, call for the candidate to work by himself on data presented in a written form and to make decisions based on information similar to that presented in an in-basket exercise. The skills measured in such an exercise are also similar to those measured by the in-basket. The results of this study would be expected to hold for this type of exercise since it has very much in common with the exercise used in this study. Other exercise types such as leaderless group discussions or other exercises involving a verbal response mode may be different enough from the situations studied here that the results obtained might not hold for them. Further research might attend to this problem.

The problems of coaching on a simulation exercise has been looked at directly in this study but there are other questions that
remain unanswered. These stem from the use of several measures over time. In industrial applications, candidates might participate in a higher level assessment program. Another situation in industry is that in which an employee receives training which uses simulation exercises such as an in-basket and is later involved in an assessment program. The question common to both these situations is whether the prior experience with the situational exercise will affect a candidate's performance on subsequent applications of similar simulation exercises. The primary difference between this situation and the one in the present study is that the present study involves the effect of second hand information on the same exercise where the test-retest situation involves first hand experience with a similar exercise. This second situation is exemplified in the case of the candidate in a middle management assessment program that has previously acted as an assessor in a similar, lower level program. This is the type of situation that was looked at by Burroughs et al. (1973) for the leaderless group discussion exercise. The manipulation in the present study provides the subject with information about the specific problems involved in the exercise they are about to take but may or may not give insight into the strategy to use in taking the exercise. For this reason, it is suggested that further research is needed in order to determine the effect of prior testing experience on subsequent simulation exercise performance.

The effects of coaching that cannot be controlled for in the assessment center process would be expected to have minimal influence on the overall validity of the decisions made at the center if the
results of the present investigation generalize to the industrial setting. These results may be even more important in in-basket applications where initial selection decisions are being made as the company utilizing the test might be expected to have less control over the amount of coaching that occurs than they would in an assessment center application.
APPENDICES
APPENDIX I
INSTRUCTIONS

For purposes of this exercise each one of you is to consider himself Will Judd, shift supervisor of production of the Geometric Manufacturing and Development Company. The Geometric Company has just made you the new shift supervisor of production. Your company does research and development work in the area of atomic-powered engines and also produces a number of different engines for commercial use. You have just arrived in your new job. Mr. Walter Mason, your predecessor, died suddenly of a heart attack Friday evening. You were notified Friday at 8 p.m. of your new appointment; and, because of the need to take care of some last-minute details in your old job, you could not come to your new job until today. Today is Sunday, September 11. The situation is obviously hypothetical, but you are to work just as you would if you should find yourself in a similar situation in the future. Although the situation is artificial, with some unrealistic restrictions on the time allowed you and the methods and activities you can employ in communicating with others, the problems are real, obtained from actual situations supervisors have encountered on their jobs.

You have to leave your "office" promptly in one hour to catch a plane for an important meeting which you had committed yourself to attend before you learned of your appointment to your present position. You will be very busy during the meeting and will not be able to take along anything to work on. This meeting will keep you away both Monday and Tuesday. You are working on Sunday afternoon because you want to take care of anything that might need your attention before Wednesday.

Before coming to your office you have had about an hour's chat with the Division Personnel Superintendent, Mr. Steve Long, who had come down to the plant just to meet you.

Mr. Walter Mason was 58 years of age at the time of his death. He had 35 years of service with the company. He was apparently in good health and did an adequate, although not outstanding, job in his position. He had been shift supervisor for the last fifteen years. One of his major difficulties was his inability to develop his subordinates to take much of the load. Mr. Long said that Mr. Steele appeared to be concerned about things that may have piled up in the office since Mr. Mason's death. He urged that you should get on top of the job as soon as possible. Your new secretary, Miss Jane Butler, had worked as Mr. Mason's secretary for eight years. She has a reputation in the division for being very efficient and Mr. Long indicated that she should be of much assistance to you in getting oriented.

Mr. Long had little to say about the other members of your future staff. He thought that Mr. Mason had maintained a good department, but none of the people are particularly outstanding.

Mr. Long's superior, Mr. Felton, is relatively young. He has many new and somewhat advanced ideas about managing people. He is aggressive and uncompromising in his demands for efficiency but is considered a warm and friendly person.

Now that you have a brief background for your new position, you are ready to go on with the exercise. Remember, the day is Sunday, September 11. You are Mr. Judd. You cannot reach anyone for help. Your files are locked and your secretary has the key. You must work with the materials at hand. You have 45 min. You will be gone Monday and Tuesday. You cannot take any of these materials with you on your trip.

Your working equipment consists of an organizational chart, a calendar, and an in-basket (pp. 1–17) containing the materials your secretary has left on your desk for your attention. These materials include letters, reports, memoranda, etc. You have 3/4 hour to do as much as you can toward taking care of the problems which the materials present. Please indicate on each item why you are taking the steps you have chosen and what you hope to accomplish.

You are requested to write down everything you decide or do. The back of each memo is left blank to provide you with enough room to record this information. Make memos to yourself about things you will want to do after you get back. Draft letters, if appropriate, for your secretary to prepare. Record (in the form of notes) what you will say on the phone, say directly to Miss Butler and others, and
what your intentions are as well as your actions. Note agenda for meetings you may want to call. Sign papers if appropriate. Everything you decide or do should be in writing. Many of these things normally would be handled more informally, but it is Sunday, you are new in your job, and you will be out of town for the next two days.

<table>
<thead>
<tr>
<th>S</th>
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Friday Evening

Hr. Judd,

Welcome to your new job. I've gathered some material for you that I think you'll need. A lot of this is material that Mason never got to and you'll have to straighten out. Coming into a job after Mason is going to mean an awful lot of work for you as he had a way of avoiding certain crucial decisions.

Jane Butler

P.S. I'll see you when I get back from vacation.
August 10, 19—

To: Mr. Walter Mason
From: Wes Jones
Subject: Personnel

Please let me have this form back at your earliest convenience. I've been looking over your people and I want to promote Joe Sutton to that foreman's opening and I need your signature.

I recommend the promotion of Joe Sutton to Foreman.

________________________________
Shift Supervisor
To: Walter Mason
From: Bob Rogers
Subject: Annual increments

The following men are scheduled for bonuses if their work warrants it. Please initial each man you wish to receive the merit bonus.

Feather
Fingers
Sutton
Rollins
Jason
Calhoun
September 1, 19-

Mr. Mason,

I'd like to see you as soon as possible about a personal matter of the utmost importance.

Sutton
September 3, 19—

To: Mr. Walter Mason
From: Bob Rogers
Subject: Production hours

Please see to it that the coffee breaks of the people in your group aren't longer than 10 minutes. We're not running a country club you know.

Rogers
INTER-OFFICE MEMORANDUM

MEMO TO ALL MANAGEMENT PERSONNEL

You will be required to submit written requests for overtime to me personally, three days in advance of expected needs.

Brooks Field

Copies to:

Steele Evans Jackson
Rogers Smith Wilson
Long Mason Mary Smith
Wilson Jones Helen Jones
Green Campbell Edwards
Mr. Mason,

I'm sick of working on the oil leak in the conveyor belt. You better put somebody else on it because I've got a bad back. If I don't hear from you by Monday I'm putting in a grievance with the union. With all the seniority I've got, you've got no right keeping me on that job.

Sutton
August 5, 19-

Mr. Walter Mason
Geometric Company
Allendale, New York

Dear Mr. Mason,

I thought you should know that one of your men is running around with a married woman in town. He drinks an awful lot and is not faithful to his wife, and certainly creates a bad image for your company. I felt it was my duty to let you know this. His name is Joe Sutton.

A conscientious citizen
(Miss) Mabel Agitator
To: Walter Mason  
From: Bob Rogers  
Subject: Safety

By next Monday have in my office a list of safety suggestions.
September 6, 19—

Mr. Mason,

I'm going to quit my job as of the 15th of this month unless something can be done about my job. I'm going crazy putting those pieces of aluminum together without a chance to do anything else.

Nixon
The vacation of Jane Butler will commence September 15 through the 29th.

Approved by: ________________

Shift Supervisor
INTER-OFFICE MEMORANDUM

TO ALL NONMANAGEMENT PERSONNEL

No more coffee breaks until further notice. Anybody caught leaving early will be suspended.

Walter Mason

Mr. Judd,

Do you want this sent out over your signature now?

Jane
September 2, 19—

Mr. Walter Mason:

We the undersigned are strongly against the policy of giving merit bonuses. We think it is political, and an unfair way to bribe workers. We plan to take it up with the union unless it is stopped.

Feather
Sutton
Jason
Fox
Bruner
September 6, 19-

Mr. Mason,

I'll have to work overtime to finish the installation of the new conveyor belt by September 15, so I'll just plan on working overtime all next week. Three hours per day.

al
To: Walter Mason
From: Lou Jackson
Subject: Community Relations

Dear Walter,

It has come to my attention that some of your people have been seen in some questionable areas of town. You know how important good community relations are for us. I wish you would talk to some of them and straighten this out. Their names are: Feather Fingers
Sutton
Rollins

Lou
To All Shift Supervisors:

We are planning to simplify the job of the man on the fabrication line. If each man does a smaller portion of the entire job, things should go faster because they will all be specialists. Please discuss this with your men as soon as possible.

J. C. Steele

Bob Rogers
Mr. Walter Mason,

We have gotten time on Channel 5 for a five minute interview with the typical assembly line worker. I must have the name of the man in my office by September 15. Let's have a pleasant looking, personable, and above all, upstanding individual. Somebody suggested Joe Sutton and unless I hear differently, I'll use him.

J. C. Campbell

T.V. Manager
APPENDIX II
IN-BASKET RESPONSES

CAST:

Jane Butler - Secretary
Bob Rogers - Production Superintendent
Brooks Felton - Vice President, Operating
Lou Jackson - PR Manager

Wes Jones - Supervisor, Personnel
J. C. Steele - Plant Superintendent
J. C. Campbell - TV Manager
Walter Mason - Your Predecessor

DATES:

Sunday, September 11 - Day In-Basket is taken.
Monday and Tuesday, Sept. 12 & 13 - You are out of town.
Wednesday, Sept. 14 - You return to town.
Thursday, Sept. 15 - Secretary leaves on vacation; Nixon is to quit;
     Sutton is to go on TV.

MEMO: POSSIBLE GOOD RESPONSE:

Intro: Call meeting with all employees for Sept. 14.

#9 Find out when secretary is planning to return from vacation.

#11 Don't O.K. Sutton for foreman. Hold off decision until you
     find out more about Sutton.

#15 Hold off on decision until you know more about the men's work
     and their feelings on merit bonuses.

#17 Set up meeting with Sutton to discuss this matter on the 14th.
     (See memos #25 and #67).

#21 Talk to workers about coffee breaks at meeting on the 14th or
     post a sign by coffee machine.

#23 Plan to go over production schedules on 14th or 15th to see
     what overtime is needed.

#25 Send a memo to Sutton telling him that you will be out of town
     Monday, but that you will be glad to talk to him about this
     problem when you return. Set up a meeting with him on 14th.
     (See memo #17).

#27 Ignore and throw out.

#29 Send memo to Rogers saying that you will have to turn in the
     list late due to your newness on job. You may want to post
     a memo to workers asking for any safety suggestions they have.
#37  Send a memo to Nixon saying that you will be glad to meet with him on the 14th and set up a meeting with him. (The 15th is too late.)

#39  Sign paper to approve secretary's vacation. Write a note to Jane Butler asking her to postpone her vacation if it is convenient as you really need her.

#49  Do not send out.

#53  Schedule a meeting for the 15th or the 16th and send a memo to each of the men on the list. In meeting, discuss the merit bonus situation. You may want to mention that Feather, Sutton and Jason are up for merit bonuses. Talk to Wes Jones or Steve Long about bonus system prior to meeting.

#57  Send a memo to Bob Rogers saying that you will be out of town and you have an overtime request that you think may be important and don't have the required three days notice. Tell him, after explaining situation, that if he does not feel overtime is justified, to stop the work. Tell Jane Butler to have Al go ahead.

#59  Ignore.

#63  Send memo to Steele and Rogers saying that you will talk to the workers about this in your meeting on the 14th. (Related to the problems in memos #25 and #37.)

#67  Don't O.K. Sutton for TV. (See Memos #27 and #59, these memos don't show anything about job performance, but Sutton may not be your most upstanding individual worker and therefore not the man to put on TV). Send the memo to Bob Rogers and ask him to make a decision or give the problem to one of the other shift supervisors as you don't know your men well enough yet to make this decision.
APPENDIX III
IN-BASKET RATING SCALE

1. PERCEPTION

This dimension includes time perspective, the ability to perceive future implications, the perception of problems and the relationships between problems and the perception of human strengths and weaknesses.

<table>
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<tr>
<th>Is highly perceptive of all aspects of the situation</th>
<th>Is low in perception of all aspects of the situation</th>
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<td>5 4 3 2 1</td>
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2. ORGANIZATION AND PLANNING

This dimension includes preparation skills, organization of data and handling data in a systematic manner and setting objectives and priorities.

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<th>Carefully plans and organizes prior to taking action</th>
<th>Shows no evidence of planning prior to taking action</th>
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3. DECISION MAKING

This dimension includes the willingness to make decisions given adequate data and making decisions based on all available data.

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<th>Shows a high degree of Decision Making</th>
<th>Shows no skill in Decision Making</th>
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4. HUMAN RELATION SKILLS

This dimension includes the subject's attitude toward others. It includes openness to ideas, feelings and values of others and concern for the feelings of others.

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<th>Open to ideas, feelings, and values of others; shows concern for feelings of others</th>
<th>Shows little regard for ideas, feelings and values of others</th>
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MEMO: PERCEPTIONS AND RELATED ITEMS

Introduction
No phone calls can be made today (Sept. 11). You may not take anything with you to work on. You will not return until Wed. (Sept. 14). Your files are locked.

#7
Bob Rogers is your direct supervisor.

#9
Jane Butler does not expect to see you before she leaves on vacation (see #39).

#11
Joe Sutton is mentioned elsewhere (see #15, 17, 25, 27, 53, 59, 67).

#15
Feather, Sutton and Jason are against merit bonuses (see #53).

#17
This may be related to other memos (see #11, 15, 25 27, 53, 59, 67).

#21
This is related to #49.

#25
This may be the same problem as in #17. They are dated one week apart (see #17).

#27
Sutton is also mentioned in this context in #59. (see #59, 67).

#29
You will not be in town Monday.

#37
You return on the 14th. He is complaining about a job being too simple (see #63).

#39
Jane's vacation starts the 15th and you will be back on the 14th. It is a two week vacation (see #9).

#53
See #15.

#57
"All next week" written on the 6th means starting Monday, 12 Sept., which does not give you enough time to get three days prior notice to Brooks Felton (see #23).

#63
Nixon and Sutton have complained about doing the same thing over and over (see #17, 37).

#69
Sutton may not be an upstanding individual and has several gripes about the company (see #11, 17, 25, 27, 53, 59).
REFERENCES


Hinrichs, J. R. Comparison of "real life" assessments of management potential with situational exercises, paper and pencil ability tests and personality inventories. Journal of Applied Psychology, 53, 425-432.


