1980

Simulation and advance organizers applied to administrator education: a laboratory experiment

Lorence Carl Moeller Jr.
Iowa State University

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SIMULATION AND ADVANCE ORGANIZERS APPLIED TO ADMINISTRATOR EDUCATION: A LABORATORY EXPERIMENT

Iowa State University

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Simulation and advance organizers applied to administrator education: A laboratory experiment

by

Lorence Carl Moeller, Jr.

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1980
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CHAPTER I. INTRODUCTION

Management educators are continually searching for more efficient ways to train people for leadership roles. Management research and experiential knowledge has grown rapidly in the last decade as new technical, psychological, and social principles have been applied to the problems of supervisory effectiveness in organizations, including the schools.

The burgeoning complexity of modern school administration has prompted suggestions that traditional administrator education programs are ineffectual (86, p. 16). The criticism often provides a prescription for clinical methods which provide practice on realistic problems under professional supervision and tutoring. It has been suggested that simulation is an economic and effective clinical approach (96, p. 81). Its use has been demonstrated in schools of professional law, medicine, business management and the military (117).

Simulation is sometimes called experiential learning (29). Simulation is the representation of the essential elements of reality in a model, simplified, controlled situation (12). The concentrated presentation of situational variables and problems via simulation promotes efficient use of time for educational, experiential, examination or research purpose. Experiential learning may thus occur in classroom settings.

Statement of the Problem

This investigation describes an experiment in leadership training which uses simulation as a laboratory for research. While this appeared to be a rational use of simulation, it was necessary to consider whether
any inherent learning effects attributable to simulation would confound the results of the proposed experiment.

The experiment described by this report was conducted on the assumption that education for decision-making is an essential facet of leadership that is neglected in educational administrator training. The argument is not that administrators do not have decision skills, but rather that the skills that they employ are assembled over many years of unrelated education with the result that these decision skills are inefficiently applied to the class of problems extant in school administration.

It is posited that a major error in educational administration curriculum is the assumption that graduate students have adequate decision skills for solving school administration problems. To make this assumption appeals to common sense, yet eminent learning psychologists such as Maltzman, Glaser, Maier, Gagné, DeCecco and Ausubel have shown that the concept of broad generalization of these skills is fallacious. They theorize that it is important to organize relevant decision and problem-solving knowledge in advance of problem-solving exercises (31, pp. 324-65).

Providing decision training according to prescriptions in the literature and testing the effect of that training in a controlled simulation environment is the essence of this study. Since simulation provides practice in problem solving, it is reasonable to postulate interactive effects between decision training and simulation. Finally, if there is a beneficial interaction, it is desirable to know whether it endures beyond the academic setting.

The need for a controlled setting in which to test this decision
training suggested a laboratory simulation method, inbasket simulation, used by many professors of educational administration, and available from the University Council for Educational Administration (UCEA). Inbasket simulation is a role-play depiction of typical problems in the form of letters, notes, memos that cross a school administrator's desk. In addition, the simulation is supplemented by audiotaped interruptions and filmed vignettes that provide variety and realism in the laboratory setting. The problems are solved by paper and pencil responses indicating the action the participant would take. The UCEA's Monroe City Urban Simulation (URB/SIM), Wilson High School Principalship, developed under guidance of Lloyd DuVall, was used in this study (115).

Investigation of simulation literature showed that this inbasket method, while receiving acclaim as a tool for effective management and decision training, did not seem to meet conditions generally accepted for a learning/teaching system in that it lacked design objectives and response feedback provisions. Accordingly, it was judged an acceptable research site with the reservation that learning effects would be studied.

Hypotheses Tested

This investigation focuses on two principal ideas. One is that administrative training can be improved by organizing relevant decision-making skills prior to directed practice through simulation. The other is that the UCEA inbasket simulation is an effective laboratory for practice, but that it embodies no inherent educational design and has no educational or training benefit when used alone.
There were twenty-eight hypotheses generated as a result of this investigation. These can be grouped into five general hypotheses, four of which are directly related to the laboratory experiment, while the fifth group encompasses exploratory questions related to ancillary data collected in the study. The twenty-eight null hypotheses are detailed in Chapter IV, Findings.

The categories of investigation may be discussed as follows:

(1) Testing for the effects of audiotutorially-presented decision training on control versus experimental groups and between administration experienced versus nonexperienced subjects.

(2) Testing for the effects of inbasket simulation in terms of decision quality between control and experimental groups and relative to administrative experience.

(3) Testing for the effects of experimental treatments upon Consideration attributes of the various categories of subjects.\(^1\)

(4) Testing for the effects of experimental treatments upon Initiating Structure attributes of the various subject categories.\(^1\)

(5) Testing for relationships between the dependent variable primary instruments and other independent measures often applied in management and/or simulation seminars and experiments.

\(^1\)Consideration and Initiating Structure are leadership behavior constructs identified by the Leadership Opinion Questionnaire (38) and defined on p. 26 of this report.
Major Hypotheses Posed

Category 1: The effects of Audiotutorial Decision Training.
Major Hypothesis: It is expected that exposure to audiotutorially presented decision training based on the concept of advance organizers will result in increased knowledge of concepts, principles and useful skills for decision-making as measured by a paper and pencil test of those skills and knowledges.

Category 2: The effects of Inbasket Simulation.
Major Hypothesis: The UCEA Monroe City inbasket simulations have no inherent educational value for the training of school administrators as measured by the quality of decisions made on the Wilson Senior High Principalship simulation, Inbasket One.

Category 3: The effects of Experimental Treatments upon Consideration.
Major Hypothesis: A training program which combines advance organizers with inbasket simulation will produce desirable measured changes on the construct Consideration due to the interactive effects of instruction followed by practice.

Category 4: The effects of Experimental Treatments upon Initiating Structure.
Major Hypothesis: A training program that combines advance organizers with inbasket simulation will produce desirable measured changes on the construct Initiating Structure due to the interactive effects of instruction followed by practice.

Category 5: The relationships among the dependent variables and
other independent measures of administrative behavior.

Major Hypothesis: There is a common thread of measured attributes among the many instruments that have been devised to assess managerial ability. This commonality would, if it exists, greatly increase capabilities in research, personnel selection and management training assessment.

Delimitations

This study was limited to graduate students enrolled in educational administration courses at Iowa State University. These students represented rural, suburban and urban interests.

This study is further limited to a single inbasket simulation, the Wilson Senior High Principalship, Inbasket One, as developed by the University Council for Educational Administration.

The fact that most of the subjects were off campus commuting students maintaining regular employment in education jobs (teachers and administrators), places another constraint upon the conduct and the findings of this experiment. This is, however, typical of the population toward which this study is directed.

Finally, the course of advance organizers was developed in the best judgment of the research team, but was not separately validated. It is possible that beneficial alterations in the advance organizer curriculum content might be proposed as a result of continued research and development. The advance organizer concept used in this study is a liberal adaptation based on Ausubel's theory as amplified by DeCecco (31, pp. 334-43).
Sources of Data

Part of the data in this study were collected using several self-report type standardized instruments administered to subjects who were enrolled in Educational Administration courses at Iowa State University.

The principal instrument used to answer questions about the effects of decision-training simulation, and the interaction between the methods, was the Leadership Opinion Questionnaire (38). This standardized instrument yields scores on two scales which have been shown to be mutually exclusive measures of supervisory behavior. The scales are called Consideration (C) and Initiating Structure (S).

The second instrument used to measure the effects of simulation and decision training was a set of correct responses developed within the research program. This response criterion was used to obtain an indication of decision quality.

This second source of data was the subjects' scores on the Wilson Senior High Principalship (URB/SIM), Inbasket One. These scores were developed using a team of experienced Iowa school administrators enrolled in a seminar at Iowa State University. This team studied the URB/SIM preparatory materials (films, slides, tapes, and data bank) and then considered each inbasket problem in open discussion. The team was led by the researcher conducting this study. A group consensus solution to each problem was established. These solutions detailed the analysis and final solution of the problem and proposed actions. These were dubbed correct responses.

The team members were then instructed in a scoring procedure and
each person was assigned a randomly chosen set of subjects' inbasket solutions to evaluate. These evaluations were reviewed by the researcher, and scores for the inbasket then assigned to each subject.

A third source of data was from two paper and pencil attitude inventories, the Study of Values and the Life Style Questionnaire. Another self-report instrument contributing to this data pool was the administration style and communication style analyses provided with the URB/SIM materials. All these data were added into a correlations matrix as a portion of the investigation designed to learn whether common attributes were being measured by the various instruments.

Finally, certain demographic and personal information was collected from each subject at the onset of the experiment.

Definition of Terms

Throughout the discussion and presentation of this research, every effort has been made to explain and delimit terminology and specialized procedures where the reference first occurs. Accordingly, no additional set of definitions will be advanced in this chapter.

Potential Value of the Research

According to the literature, there are many simulation users in many disciplines. Yet very little positive experimental research has been published. This is especially true concerning the UCEA inbasket simulations. The findings of this study should add to knowledge about the learning and research efficacy of the UCEA materials.
The questions and methods relating to simulations considered in this investigation are likely to invite study by other researchers. The identification of specific, useful standardized instruments for assessing the effects simulation as a training tool will encourage others to use these instruments and contribute their findings to the knowledge base. Further, the development of specific instruments and tools to evaluate the quality of decision-making will improve the use of simulation as a teaching and research method in the future. Finally, this study will contribute knowledge about the relationships between supervisory behavior in the inbasket simulation exercise and management/leadership constructs described in the literature.

The findings of this study concerning the effectiveness of decision training may cause management educators to reconsider the emphasis of that facet of supervisory training in the general curriculum plan. With the current interest in higher education toward personalized instruction (PI), the findings of this study related to presenting decision training by an individualized, self-study method may prompt other researchers to examine this alternative to traditional lecture methods, especially in relation to providing advance organizers for main content.
CHAPTER II. REVIEW OF LITERATURE

The review of literature presented here summarizes five separate subjects in the pursuit of logical support for a single idea. The idea of this research study is that simulation is an excellent laboratory for practicing the abstract concepts and principles that comprise effective decision-making behavior. It has been suggested that decision-making is the *sine qua non* of management and leadership. It is also suggested that learning of decision-making rules, concepts and principles requires the presentation of advance organizers. Adjunct to this investigation, it was necessary to establish a rationale for the use of certain tests and procedures. The following search of the literature deals with each of these conditions. The topics to be considered are each represented by extensive literatures, often with unresolved scholarly conflicts surrounding the discussion of central concepts.

This review of literature focuses on the following major topics:

1. Educational administrator training problems.
2. Inbasket simulations.
3. Decision training.
4. Assessing training effects.

1: Problems in School Administrator Training

The inbasket simulation discussed in this research represents a response to criticisms of traditional educational administration (Ed Ad) preparation. Although simulation has been an available educational
technology for almost two decades, there is little evidence that it has enabled graduate schools to meet the challenges that simulation was expected to solve (96, p. 76; 86, p. 16). The following discussion considers the nature and substance of these criticisms of traditional Ed Ad curricula.

In the earliest years of educational organizations, the need for managerial guidance was resolved by choosing a headmaster. A leader or manager was typically selected on the criteria (1) of being a good academician in some subject matter, and (2) having a certain amount of technical knowledge about educational policy and philosophy, or at least strong opinions regarding policy/philosophy. Anyone possessing these minimum qualifications (joined with a host of other largely ascriptive criteria) was expected to function as a good educational leader. Even today, college and university administrations reflect this traditional head teacher or professor-in-charge model rather than the industrial practice of using a trained professional manager.

Historically, in response to stiffening public certification requirements, universities identified educational administration as a departmentalized discipline, separating certified administrator preparation from the more traditional pattern of graduate studies in which each specialty teaches its own brand and style of management. Even so, educational theorists who pushed the public school systems into the latest innovations in teaching methods, scheduling designs, and multimedia individualized learning systems were slow to adopt their own prescriptions at the university level.
In 1960, the Yearbook Commission of the American Association of School Administrators (AASA), headed by Hollis Moore, charged that administrator preparation was a bookish, sterile, hands-off approach. The Commission said that colleges of education were not revising their curricula to include multidisciplinary training and exposure to the "administrative facts-of-life" (109, pp. 83-4). Moore wrote, "Administrative training should center on successful behavior. . . . People should be trained to deal with situations, not just know about them" (87, p. 66). Perhaps a similar indictment could have been leveled at industrial management schools, some still using case study methodology which had long held sway; however, the Commission's implication was that education professors knew better, but were doing little to correct the problem.

In response to such criticisms, a number of studies were conducted in attempts to discover just what could be done to improve performance. Of course, emphasis was placed upon education for administrative or leadership duties. Some fourteen years later, at the 1974 Convention of the American Association of School Administrators, John Hemphill, an early critic and a simulation proponent, was compelled to report that there was still not enough management competency available to help school administrators handle both the leadership and administrative duties of their positions (60). In the 1975 Report of the Leadership Training Institute on Educational Leadership, Michael Usdan, president of the Merrill-Palmer Institute, wrote, "I would argue that too many institutions of higher education have followed an inappropriate model in their preparation programs for educational leaders" (117, p. 2). Usdan argued for reduced
emphasis on the preparation of administrators by the professional research-oriented approach and more emphasis upon the practitioner elements. He cited the clinical methods of professional law and business schools as effective examples, where simulation is often used.

Efficiency and productivity of schools have received increasing public attention since the late 1940s giving rise to a whole new debate about educational policy and tending to impose industry-like standards of measurement and expectations. This has generally come to be known as accountability. Popham defines this era of accountability as a "period in which schools are obliged to prove the effectiveness of their instructional effort" (93, p. 11). Increasingly, accountability has been legislatively imposed. Its significance concerning this report is that new standards and methods for certifying and training educational administrators are needed. In 1974, at a UNESCO conference on Improving University Teaching, Popham, a widely respected educator and researcher, was almost echoing the 1960 sentiments of the AASA Commission in charging that universities were due for their own accountability era. Popham's critical remarks became emphatic as he focused on graduate level education programs (93).

One could cite many other criticisms of educational administrator preparation, but the issue is clear. There is deep concern at the highest scholarly levels that a serious problem exists. Martin Burlingame, also writing in the Leadership Training Institute report, charged that "With rare exceptions, training in educational administration has been the passing on of practices and principles" (20). Clearly, the knowledge
of principles underpins the education of a manager. The issue is whether there is a way to practice and sharpen that knowledge in a realistic, guided simulation or practicum that is equivalent to actual experience while allowing professorial intervention. A learning environment where action and experimentation are not aversely stimulated, and where abstractions of educational and psychological theories can be tested, is most readily available via simulation.

2: The Technology of Simulation/Gaming: Inbasket Simulations

Introduction

Simulation methodology is still experimental in public education. Most users judge its effectiveness on ascriptive and affective grounds rather than offering empirical data, business management educators being some exception. The simulation/game is often used by teachers as an artificial means of stimulating interest, and particularly to produce affective responses. Simulation/games have been most widely used in the social sciences as pure games and as role-play simulations (130, p. 24).

Attention to possible educational benefits of simulation/gaming was generated initially by a number of Defense Department sponsored training studies during the 1950s. One study attracting much attention from management educators was the Rand air defense simulation series of 1952-4 (in 25). The air defense simulation was a computer-oriented exercise first known as a spin-off type in that it combined the structural elements of several simulation and gaming methods (59).

At the time that business schools and the military were developing
the computerized simulation/game, certain concerned educational administration professors and researchers were working to develop a paper and pencil simulation/game based partially upon the findings of the Rand experiments and partially upon other nontraditional ideas for fostering learning through practical problem solving. Their efforts resulted in the Whitman School simulation, forerunner of the present UCEA Monroe City Urban Simulation series (116).

There are many other uses for simulations, games and simulation/games in industry, in the military and in education. Some of these require powerful computer processing. Simulations have been used to project world energy and food supply scenarios. Simulation war games run the gamut from classroom and hobby activities to full-scale military operations. Public school teachers use and design simulation/games to facilitate learning. Millions of people play the most famous simulation/game of all, Monopoly, without recognition of its potential for teaching financial and real estate precepts. Yet, with simulation/games pervading the culture, there is widely varied thinking about their definitions, uses and effects.

Defining simulations and games

The distinction between simulations and games used for educational purposes is somewhat obscured by the simultaneous development of both, with an element of role playing in each. Some writers continue to refer to simulation/games while others have adapted the terms to mean differing kinds of exercises. Twelker writes that it is nigh impossible to justify or make sense of the various groupings that have been advanced
Drawing from a wide variety of definitions, Bilek concludes, "When a game is based on a model of a situation in which reality is simplified, it is a simulation" (12). This definition would seem satisfactory to most simulation/gaming theorists, although Klietsch specifically argues that chance events are an element of games, while simulations are designed to replicate essential elements of reality for the purpose of managing, controlling, solving, and ultimately, agreeing upon a problem's optimal solution (71). Using these arguments it seems appropriate to use the term simulation to describe the decision-making, problem-solving in-basket exercises created for training educational administrators. Implicit in this definition is the concept that gaming aspects requiring competition and winning are at least subdued, if not totally ignored.

**Simulation in educational administration**

The UCEA series of educational administrator simulations began development in the late 1950s as research known as the Whitman School Study, designed to discover possible relationships between principals' personalities and job performance. The principal investigators, Hemphill, Griffiths, and Frederiksen, suggested then that simulation offered an excellent method for teaching administrative skills (61, p. 351).

The carefully and realistically designed Whitman inbasket exercises, refined and supplemented by the UCEA, were subsequently used extensively in workshops and seminars to "train" administrators. In 1966, Weinbarger found that ninety Ed Ad institutions reported 125 professors using the simulations (121). A subsequent development (Madison Schools, 1967)
seems to have carried this original design relatively intact even though objectives were formally abdicated. The new objective was simply simulation for its own sake.

Further development by the University Council for Educational Administration (UCEA) led to a third generation simulation package known as the Monroe City Urban Simulation (URB/SIM) (116). URB/SIM is a multiple package inbasket simulation based upon a real school district, using problems and situations gleaned from extensive surveys of practicing school administrators. It is supported by filmstrips, audiotaped and kineosced problem situations, and a complete data bank of printed materials that create and support the simulated environment.

It was this URB/SIM package that was selected and purchased for the purposes of the present research. The subpackage selected for use in this investigation was the Wilson High School Principal Simulation. The instructor's manual stated in its "Rationale" that the simulation was designed for maximum flexibility, and that no single instructional objective was dominant (115). In fact, no instructional objectives are set forth, apparently on the premise that the simulation materials can be used by any instructor for any purpose. This is an interesting position considering a strong bias among simulation/game designers as well as educational theorists for designing instructional packages around well-designed objectives.

The objectives void was advantageous under the circumstances of the present study. URB/SIM is a supplemental type of simulation in that it is designed, whether intentionally or not, to provide a practice arena
for previously learned management concepts. Participants are instructed
to react to simulated problems with their best decision-making abilities
and to carefully document these reactions. Obviously, no planned learn­
ing is occurring throughout this procedure since no planned or extrinsic
reinforcement of actions is provided.

It is apparent that URB/SIM, originally designed as a research tool,
can provide a laboratory-like setting that would otherwise be difficult
to achieve in social science research (2, p. 28). Because it is a sup­
plemental design, there should not be any internal behavioral changes
effected due to response checking or feedback. The literature discussing
URB/SIM and its counterparts focuses on affective reports suggesting the
exercise has many learning benefits. This claim is unsupported, in fact
denied, by the serious literature of simulation/gaming and learning
psychology.

Research findings on simulation/games

Concerning the demonstrated benefits of simulation as a teaching/
learning methodology, the supporters and users of simulation and games
are enthusiastic. Unfortunately, most evaluations are nebulously affective. Good feelings are reported, but good research is scant. Keach re­
ports several instructional panacea claims by users, but finds little
empirical support, even for the affective success claims. "... but the
kids enjoy it" is the most common report (66, p. 19). Similarly,
Stadsklev examined forty-nine dissertations produced between 1970 and
1974. He found little evidence for the educational effectiveness of sim­
ulation/gaming (105). In a recent important review of literature,
Reiser and Gerlach concluded that research results, especially with respect to the cognitive domain, are not very positive (97, p. 11). They suggested that both simulation/game design and reported research methodology were at fault. They suggested that the lack of stated behavioral objectives accompanying simulation designs is a significant contributor to the problem. Fletcher, in his widely-quoted critique of simulation research, noted that there is commonly a lack of any clear relationship between simulation/game structure and learning objectives (42, p. 426). URB/SIM is an example of this problem.

Using simulation for research

Although the supporters of simulation cannot agree on its advantages and uses for teaching, Thomas noted that they do concur that simulation is an excellent vehicle for research (111, p. 19). Comparing traditional social-psychological research sites to simulation/games, McFarlane identified the following three major advantages for simulation/games:

(1) An optimum combination of control and structure versus freedom and innovation with respect to experimenter 'control of the subjects' actions

(2) A setting more likely to be perceived as "realistic" by the subjects participating in the experiment.

(3) A setting which allows the researcher more information with respect to complex, mutually contingent sequential interactions upon which he can perform his analysis. (78, p. 150)

In addition to realism, one of the main advantages of URB/SIM as a research site was noted previously. It lacks capability for internal response feedback, thus reducing the sequential interactions that would facilitate learning. While this facilitates research use, the same lack
of criteria for response correctness restricts the utility of the simulation in studies related to decision-making. The quality or correctness of decisions is a principal criterion for evaluating the effect of either the simulation or decision-making instruction. Reflecting on that problem, Boardman wrote, "the inbasket technique has been restricted by the availability of appropriate feedback materials" (15, p. 58).

In his benchmark proposal for simulation/game research, Fletcher lists six independent variables that should receive attention.

(1) A set of rules
(2) A set of possible outcomes
(3) A set of players
(4) Conflicting interest among players
(5) Goal preference and capacity to act
(6) An information system.

(42, p. 429)

URB/SIM, by these six constraints, is not a simulation/game in the most technical sense and with respect to Fletcher's requirements could most properly be considered an incomplete simulation with the following independent variables:

1. A set of rules
2. A set of outcomes or goals (unspecified)
3. An information system
4. Players who are autonomous decision-makers, having
5. a capacity to act.

The first three of these independent variables are under the direct control of the instructor or researcher. In the present study, the rules for URB/SIM are reasonably fixed by historical procedures and the instructor's manual. The information system is very complete, well-presented and easy to use consistently. Goals relative to the simulation problems are unspecified, but determinable, making it necessary to develop a set of outcomes as explained in Chapter III. This leaves as
the single manipulable independent variable, the players and their ca-
pacity to act.

Considering the remaining independent variable, conflicting interest, Horn and Zuckerman argue that a case can be made that even when only one player exists, he may be competing with himself; competing with self-
conceptualized limitations as a problem solver. They reason further that inbasket exercise can be considered within the universe of simula-
tion gaming if one accepts the idea that the participant is actually play-
ing a role selected by the designer which reflects appropriate real world situations (63, p. 1).

It may also be argued that an academic classroom setting provides the element of competition since student players tend to believe they are competing for a position on the grading curve. Course grades are an ex-
ternal source of motivation that could have a confounding effect on a simulation exercise. It is not normally the competitive element that sim-
ulation designers have in mind, but it may be suspected that it is too often the one to which the students/players/research subjects at least partially attend. This means the researcher must make an effort to sep-
arate academic grading from the simulation exercise itself. Perhaps this issue seems inconsequential, but it is a fact that very little reported research on simulation games has occurred outside an academic classroom. Competition for grades at the university, especially in graduate or busi-
ness schools, is a powerful factor. There is rarely a simulation use where participant performance is not somehow associated with an external, real world, assessment objective.
It has been shown, concerning the simulation used in this investigation, that there is one reasonably manipulable independent variable. That variable is the participant's capacity to act as a decision-maker. An assumption regarding this capability was that graduate students in educational administration had not generally received any specific, directed training in decision-making.

Drawing from educational psychology and certain assumptions about the previous academic preparation of administrator candidates, it was possible to suggest a decision curriculum that would provide advance organizers and prepare the student for decision-making activities in the simulation. It was posited that attention to entering behavior in this manner would increase the effectiveness of simulation as a training laboratory.

Based upon the findings of studies at Iowa State University, audiotutorial delivery of the decision skills advance organizers was suggested (55; 108).

Audiotutorial instruction is a variant of mediated instruction that combines the efficiency of self-paced, individualized instruction with professional intervention.

The topics or organizers selected for presentation via this method were drawn from management and leadership theory texts. The five topics were:

1) individual decision-making
2) formal and informal logic
3) attitudes and values
4) organizational decision-making
5) analyzing and identifying problems.

The rationale for advance organizers is simple. One condition of learning new hierarchical information is contiguity (31, p. 182). Contiguity in problem solving refers to the recall of relevant principles and rules in the presence of the problem. Ausubel and Robinson have termed these relevant subsumers advance organizers (6, p. 145). They describe organizers as "relevant ideational scaffolding" which enhance the integration of previously learned material into new hierarchies of abstraction and generality. DeCecco simply describes advance organizers as "a particular form of verbal mediation" (31, p. 339). He explains that organizers are useful to explain and lead into new instructional material. Ausubel and Robinson caution a distinction between organizers and summaries or introductions, however, in terms of abstraction levels.

Of course, providing organizers is not the only condition of teaching problem solving. DeCecco lists five steps for a basic teaching model.

(1) Describe for the students the terminal performance which constitutes the solution of the problem.

(2) Assess the students' entering behavior for the concepts and principles they will require in the solution of the problem.

(3) Invoke the recall of all relevant concepts and principles.

(4) Provide verbal direction of the students' thinking, short of giving them the solution to the problem.

(5) Verify the students' learning by requiring them to give a full demonstration of the problem solution.
In this study, step (1) was satisfied in the simulation instructions, step (2) constituted pretesting, step (3) was presented as an experimental treatment, step (4) was achieved by providing a problem-solving worksheet, and step (5) was a dependent variable to be assessed. It is termed decision quality.

4: Assessing the Effects of Training

The objective of this section of the literature review is to present some issues surrounding management and leadership training as they relate to the assessment of training effects.

It will be shown that only one important behavioral theory is supported by an instrument useful in this investigation. Nevertheless, there are sufficient indications in the literature that the constructs described by the Leadership Opinion Questionnaire are not only valid, but also correlate with constructs of other important leadership models (49).

Several lesser-known and less-supported leadership/management models are also discussed. Since the instruments supporting these constructs are available, and in one case offered as part of the simulation package, it is suggested that these models be included in the data collection and analysis process. Few investigators with any abiding interest in the general subject of leadership training would ignore an opportunity to increase knowledge about useful assessment tools.
Leadership behavior measurement

Determining the entering behavior of a group of potential school administrators and then testing the effect of attempts to modify that behavior is really what this study is about. To test the effect (if any), a valid, reliable and available measurement instrument was sought. The search led to several behavioral theories of leadership, and selection of the theory which could be applied and upon which measurements could be taken.

Behavioral constructs of leadership are often called style. There are two major leadership style theories, plus several others which appear to be offshoots. All of these rely upon paper-and-pencil questionnaires as measures of style, the hazards of which are duly noted (50, p. 193; 19, p. 389). The behavioral approaches attempt to transcend the trait theories by identifying constructs (that might be considered supra-trait-combinations) which describe leadership behavior in an organizational setting. The major behavioral theories are commonly known as the Michigan studies, the managerial grid, and the Ohio State studies, which each embody two dimensions, and a four-factor theory also developed at the University of Michigan (see 14, Chapters 14 and 50, Chapters 8 and 9 for a discussion). A critical comparison of these four theories is beyond the scope of this review, and unnecessary from a practical view since the only usable standardized instrument applicable under the conditions of this investigation was Fleishman's Leadership Opinion Questionnaire (LOQ) which was developed in the Ohio State Studies (36; 37; 39).

The Leadership Opinion Questionnaire is a self-report instrument
that purports to measure two principle constructs called (1) Considera-
tion and (2) Initiating Structure, defined as follows:

1. Consideration (C). Reflects the extent to which an indi-
vidual is likely to have job relationships with his subordinates characterized by mutual trust, respect for their ideas, consideration of their feelings, and a cer-
tain warmth between himself and them. A high score is indicative of a climate of good rapport and two-way com-
munication. A low score indicates the individual is likely to be more impersonal in his relations with group members.

2. Structure (S). Reflects the extent to which an individ-
ual is likely to define and structure his own role and those of his subordinates toward goal attainment. A high score on this dimension characterizes individuals who play a very active role in directing group activities through planning, communication information, scheduling, criticizing, trying out new ideas, and so forth. A low score characterizes individuals who are likely to be relatively inactive in giving direction in these ways. (39, p. 1)

Fleishman reports that research shows the LOQ constructs to be inde-
pendent. Thus it is possible for a supervisor to be high on both, low on both, or exhibit a dichotomous pattern (39, p. 1). Frequently the relative dimensions are scatter diagrammed on a quadrant when the LOQ used in Training evaluation. Those familiar with other quadrangular plot-
ting schemes in management and leadership theory will notice underlying similarities.

There is a definite indication that situational factors (organiza-
tional climate) confound the interpretation of LOQ scores. It cannot always be said that a manager scoring in a particular quadrant, having a certain style, will be effective. The relationship between leadership style and situational effectiveness is generally described as contingency. It is an artifact of interactions that are as yet poorly understood.
The LOQ contingency problem has been addressed in more than two hundred studies since 1964, with resultant identification of many variables which moderate the relationship between LOQ dimensions and effectiveness criteria. Thus Korman's 1964 criticism that insignificant correlations existed between LOQ constructs and effectiveness criteria is no longer considered valid (73, p. 558). Relative to the objectives of this research, the LOQ appears to be a wise instrument choice. The question of training effect could be answered, and the durability of effect could also be studied. In addition, the use of several nonstandardized instruments could be studied for correlations with a known and highly regarded standard.

Related measures

Three nonstandard instruments were to be used in this study. These were: (1) the Lifestyle Questionnaire (LSQ), (2) the decision training test (DT) and (3) the URB/SIM structured feedback instruments which yielded participants' leadership style (PLS) and communication style (PCS) indicators. A third element of the URB/SIM instruments was a values attitude scale which unfortunately was not accompanied by any objectives for scoring. It is really rather surprising that the simulation designers did not give more attention to seeking existing instruments to evaluate training outcomes from simulation. Both the Study of Values and the Leadership Opinion Questionnaire, as the literature suggests, would have more benefits than the subjective post mortem discussions and unproven self-rating devices that are suggested by the simulation designers.
There is some evidence that values-change measurements might be valuable in management training studies (50, p. 45). That evidence is primarily based, however, upon profiles obtained using the Study of Values (SOV) (4). Hogan notes that the six constructs measured by the SOV are somewhat arbitrary and tenous, but while reviewers are not sure what the instrument measures, they agree that it appears to tap something significant (62, p. 146). The SOV was suggested as a pretest in the present study in an attempt to check for correlates with leadership constructs.

The literature suggests that Consideration (C) and Initiating Structure (S) are mutually exclusively constructs, with a near-zero correlations frequently reported (39). It has also generally been found that there are no correlates between these two LOQ constructs and various traits. Occasionally, however, confounding results attributed to as yet unidentified factors have been reported (49). One objective of the present study was to investigate the correspondence between C, S, and the other instruments mentioned above. There are certain parallels among the various constructs that invite speculation.

The following definitions for the leadership and communication styles indicated in the URB/SIM instruments are drawn from Gaynor and Newell (47).

A. Leadership Styles (PLS)

1. **Personal-Transactional**, characterized by leader initiated and leader centered information seeking, decision making and communicating. A "hub and spoke" design.

2. **Participative**, characterized by humanistic, interpersonal, group oriented behavior. A "round table" design.

3. **Authoritarian**, characterized by highly structured,
formal, directive behavior. (The distinction between this style and personal-transactional is not really clear.)

B. Communication Styles (PCS)

(1) **Interpersonal**, non-status oriented, characterized by sensitivity to territoriality in communications. Correlates with Participative leadership.

(2) **Public**, characterized by the use of mass communication devices. Correlates with Authoritarian leadership.

(3) **Bureaucratic**, characterized by impersonal but individual responses. (No identified leadership correlate.)

Parallels between these styles and the lifestyle dimensions suggested by Friedlander and Bier are also evident.

Bier originally developed the Formalistic, Sociocentric, Personalistic lifestyles in an attempt to describe something different in the youth culture (10). Friedlander and Margulies have drawn relationships between these lifestyles and three dimensions of organizational structure: Bureaucratic, Collaborative and Coordinative (43). The dimensions differ in the nature of authority, decision-making process, communications process and conflict resolution (33, p. 582). The pairs are Formalistic-Bureaucratic, Sociocentric-Collaborative and Personalistic-Coordinative.

DiMarco and Norton found that subordinate job satisfaction was related to low Bureaucratic and high Personalistic-Coordinative styles (33, p. 590).

While it is not apparent that any articulation has occurred between these management lifestyle studies and Gaynor's work, the parallels should be obvious, assuming consistent terminology (45). One can also see correspondence between **Consideration** and **Employee Centered** constructs and
the humanistic dimensions reported in these other studies and instru-
ments. Indeed, almost all theorists agree that some form of humanistic,
group-oriented leadership is the most effective. Obviously, then, that
has become a goal of many training programs.

Though much has been written about the effectiveness of humanistic,
considerate management behavior, it remains that little is known about
how much of that quality relates to administrator effectiveness. It was
not possible to study that issue in this research except with respect to
decision quality. Furthermore, while a general goal of management train-
ing is to increase the levels of humanistic traits, it is possible that
certain management personnel do not need any more of that trait, and
would instead benefit from an increase in task-oriented attitudes.

Ultimately, the goal of management or leadership training is to pro-
duce a lasting effect that will operate in the work environment. In a
rare and widely-quoted longitudinal follow-up of managerial training,
Fleishman found that even though the desired increase in Consideration
has been achieved, the "back home" work environment effectively negated
the effect in a short time (37). Investigation of that problem is in-
cluded in the objectives of this study.
CHAPTER III. METHODS

Introduction

The purpose of this chapter is to explain the conduct of this study. The idea for this study drew upon two principal questions. The first question was whether inbasket simulation, specifically the UCEA material, was an effective training method for school administrators.

In the literature review it was posited that the existing simulation (URB/SIM) did not meet the necessary conditions for a learning/teaching system, but that it appeared to be an excellent laboratory setting for research on decision-making and management/leadership constructs. In order to test the first question, a study was proposed in which subjects would participate in simulation with appropriate pre- and posttesting to investigate whether any change in administrative attitude resulted.

Operating a simulation under these constraints invited study of the second question; "Would a refresher course in decision-making improve the quality of decision-making in the simulated high school?"

The second question was based on an assumption that administration candidates, and even practicing administrators, had not generally been given specific training on the decision process relative to the school organization. Drawing from the learning psychology concept of advance organizers, it was proposed that a short refresher course in decision-making might prove beneficial. At this stage of the research proposal, it became necessary to identify the content of a decision-making curriculum based on the advance organizer concept. The organizer concept
presumes that knowledge elements have been previously learned but not formally integrated into a conceptualized system of rules and principles for problem solving or decision-making. Thus, a decision course was developed for use in the research. This course of organizers was presented via an audiotutorial format.

**Audiotutorial Decision Training**

The content of the decision curriculum was abstracted from major topics in management and decision theory texts. Five audiotutorial lessons were prepared as follows:

1) **Individual as decision-maker.** This unit introduced the audiotutorial concept and provided rationale for the advance organizers. An overview of the following units was provided. Specific discussion applied to the individual's role in organizational decision-making, and the steps in the decision process.

2) **Formal and informal logic.** In this unit the student was re-introduced to deductive and inductive reasoning. Procedures for detecting faulty reasoning were presented.

3) **Attitudes and values.** This unit required the student to identify specific personal values and attitudes which predispose certain approaches to problem solving in education. The student was challenged to analyze these attitudes using the procedures learned in Unit Two.

4) **Organizational decision-making.** Explained the concepts of organizational structure and vertical specialization with regard to the who, what and when of decision-making. The student was required to identify the decision responsibility and authority at various levels in the educational organization.

5) **Analyzing performance problems.** This unit presented Mager's decision system concept in terms of identifying problems in the organization and searching for explanations for the problem behaviors with the goal to achieve increased organizational effectiveness. The student was challenged to apply the principles learned in the five lessons to representative problems.
The presentation of the five units was intended to refresh the memory of the student with respect to facts, concepts, principles and rules that are typically studied in a variety of courses in many disciplines. The typical educational administration graduate student background was judged to have once included exposure to most of these topics, but never in specific terms related to the duties and problems of an educational supervisor. The audiotutorially-compressed time span was expected to force intense study of the material and to reinforce transfer of the concepts from one topic to another in a logical chaining procedure with distributed practice sessions for reinforcing the learning. A copy of the audiotutorial decision curriculum is on file at Iowa State University with Richard Manatt, Educational Administration Section Leader, College of Education.

Selection of Instruments

Since the expressed intent of simulation was improving supervisory abilities, the search for standardized instruments centered on leadership and management. The literature review revealed a number of issues relative to supervisory training. Only one instrument, however, stood out clearly as an available, suitable, standardized measurement device for the study. That instrument was the LOQ. Selecting this as the primary instrument, the researcher then proposed to study some of the related issues surrounding management training and simulation by seeking correlates with certain instruments suggested in the reading and with those provided in the simulation materials.
Briefly, those related instruments, as described in the Review of Literature, fall into two categories: 1) Other attitude inventories and 2) URB/SIM instruments.

Two measurement instruments were developed by the researcher. One of these was an objective test consisting of ninety-eight items pertaining to knowledge of the five topics presented by the audiotutorial decision training. The other instrument was a subjective device designed to evaluate decision quality relative to inbasket problem solutions. The development of these instruments is described below.

Developing the Instruments

There were two criterion instruments used in this study that were researcher constructed. These were the knowledge of decision-making test (DT) and the inbasket scoring procedure, termed decision quality (DQ). The methods used to develop and use these instruments will be discussed in this section.

Knowledge of decision-making (DT)

This test sampled knowledge in the five cognitive topics treated in the audiotutorial curriculum. It also measured decision skills. There were ninety-eight recognition items. In repeated KR-20 homogeneity measures (n = 15 to 20), the internal consistency coefficient varied from 0.42 to 0.52. This was not a particularly impressive coefficient and several possibilities may be advanced for the low correlation (85). Since six differing knowledge areas were designed into this test, one might expect a variation in interitem consistency. Further, the varied
backgrounds of the testees must be considered. It is worthwhile to note that the test-retest correlation for the control group was 0.59, significant at the 0.001 level. This test was constructed by a team of three educators.

**Decision quality**

This factor was a subjective judgment of decision-making performance on the simulation inbasket problems. The decision quality scores were rendered by a trained judging team comparing participants' responses to a constructed criterion.

The criterion in this case was a set of appropriate facts, analyses, and short- and long-range solutions to each inbasket problem. This answer set was constructed by an expert panel under the direction of the researcher. The panel was a group of fifteen experienced school administrators from rural, suburban, and urban districts. The panel was first taken through the simulation background materials, the audiotutorial decision course and the associated testing. Next, the inbasket problems were presented for group discussion. The researcher recorded the initial summary opinions of the panel and printed a set of tentative inbasket solutions. This set was distributed to the panel for further discussion and modification. The final consensus of the panel was then recorded and an inbasket answer set was printed for use in scoring the subjects' simulation decision-making performance.

The final stage of this process was to actually score the inbasket solutions of ninety subjects, each of whom generated approximately twenty-five problem solution worksheets. The researcher devised an "objective"
scoring procedure, instructed the panel members in its use, and randomly assigned subjects' response packets to the panel members for scoring. The packets were identified only by student numbers. The process of developing a scoring procedure and actually scoring the inbasket problem solutions took approximately three months to complete, with panel members meeting daily for the first eight weeks of that period. The panel members were enrolled in an accredited administrators' seminar.

Research Design

The research design employed in this study is a variant of the pretest-posttest control group design. This design incorporates randomization and control groups, thus meeting most of the requirements for a strong research design with the exception that pretest reactive effects can occur (92, p. 209).

Popham suggests that the pretest reaction problem is essentially an advance organizer effect that "sets" the subject toward certain interactions with the following experimental treatment (92, p. 209). In the present study, treatment-relevant cognitive and affective domain pretesting was employed, necessitating consideration of possible pretest reaction defects.

Another factor in this research design was a time-series effort to collect longer-term data on the LOQ after the subjects had returned to a nonresearch, nonformal, education environment. The literature suggests that time delayed regression occurs after subjects leave the training environment and return to their normal work (14, p. 447). This study
embodied an effort to test that idea.

The modification of this basic pretest-posttest control group design is due to the fact that a control group does receive a treatment (simulation). A second control group is employed to examine "no-treatment" effects. All testing groups were intact. A repeated measures design was employed in data analysis.

Delimitation

This study was limited to the effects of decision-making training and inbasket simulation upon decision quality and leadership styles. The sample was drawn from graduate students at Iowa State University enrolled in educational administration courses. The study encompassed five school terms. The simulation exercise was necessarily extended over several weeks as opposed to the UCEA suggested concentrated workshop approach. Most of the subjects were part-time commuter students enrolled in degree and/or certification programs in educational administration. One of the subject groups was an off-campus course. These limitations are typical of graduate-school educational administration coursework, however.

Five major literature areas were searched for fundamental issues and suggested procedures. Each of these subjects is marked by a vast amount of writing and several opposing viewpoints. The simulation literature in particular is noted for its lack of attention to experimental research. There are several philosophical and psychological approaches available to all of the research issues discussed herein. This research was principally guided by behavioral models, and there was no attempt to investigate
the management vs. leadership dichotomy argued in some of the literature.

The decision training curriculum and delivery method were constructed specifically for this research study, as were the instruments for measuring decision knowledge and decision quality. Further, all of the instruments used to study leadership style were self-report types. The attempted longitudinal follow-up using the LOQ was contingent on voluntary response by mail under uncontrolled testing conditions.

Procedure

During the double-session summer term preceding the experiment, two educational administration courses were selected for trial application of the simulation and testing procedures. The URB/SIM Instructors Manual was closely followed for recommended simulation procedures (115). The experiences gained with these two groups resulted in development of the structured problem solving response device later used to evaluate decision quality. Additionally, a take-home type objective test was adapted from an earlier Whitman School simulation as a means of forcing students to familiarize themselves with the background information resource handbooks supporting the URB/SIM inbasket simulation.

The actual experiment began with the fall school term and terminated at the end of the following summer term. Procedures were identical with all groups.

At the first class meeting, the students were introduced to the simulation concept and general course requirements. This was also the initial testing session where pretest and demographic data were collected.
Human subject data release forms were also obtained at this time. The tests administered were the Leadership Opinion Questionnaire (LOQ), Study of Values (SOV), Lifestyle Questionnaire (LSQ), Adjective Check List (ACL) and the Decision-Making Test (DT). It was hoped that the massed testing of this first class meeting would work against recall of responses to specific test items during later retesting, also against pretest reaction defects.

Next, the subjects were assigned randomly to the experimental group after controlling for experience. Simulation resource materials were then issued for home study. These were accompanied by a twenty-question multiple choice test. At this point, the control subjects were released and the remaining time was devoted to explaining the audiotutorial study procedures to the experimental group. The assignment of treatment to particular courses was a professorial decision.

During the next two weeks, the experimental group studied the decision-making materials as an extra assignment. The control group was given an alternate assignment (writing a paper) on a nonassociated topic. At the end of this period, all subjects were retested for knowledge of decision-making subsumers (DT). At the regular class meetings, orientation to the simulation was provided through a series of films, tapes and filmstrips designed to establish realism for the participants and to establish their identity as a high school principal in Monroe City. Typically, the classes met only once each week for a three-hour period.

Beginning with the fourth week, the subjects started the simulation. They received an inbasket problem set, a school files data bank, and
various response mode support materials (expendable items) which included stationery, telephone call recording sheets, memo pads, and the structured problem solving response form. During the next fifteen hours, the subjects worked on the inbasket, using whatever strategies they personally held. During these simulation sessions there were several planned interruptions. The interruptions were in the form of audiotaped telephone calls and short kinescoped vignettes which presented immediate new problems that had to be dealt with. (Readers should note that the classroom was always prepared as if these interruptions would occur, and no clue was given as to the timing.) It was observed that some participants simply started at the top of the inbasket pile, while others organized the items according to priorities. Speed and strategy were factors in scoring the inbasket results to the extent that a time limit for completion did exist.

When the simulation phase was complete, the subjects were retested with the LOQ (LOQ-2). Then they were issued the URB/SIM structured feedback materials so they could self-"score" their response styles to the simulation problems. This was the only performance feedback the subjects received relating to the simulation. They were promised that a set of "best answers" would be delivered at a future date. At the final class session, the subjects were shown their performance on the LOQ constructs and were allowed some time to discuss leadership style as it related to the school organization. Finally, the subjects were given a course evaluation instrument which was furnished with the UCEA URB/SIM materials. Approximately two months later, the subjects were contacted by mail for
a follow-up study with the LOQ. This was a reasonably successful effort with a small loss of subjects.

Data Analysis

The statistical methods used in this study enabled the investigator to analyze, describe and draw inferences from the data generated by this experiment. Data processing was conducted at the Iowa State University Computation Center using the statistical package for the Social Sciences (SPSS) and Statistical Analysis System (SAS) under the direction of Mr. John Wagner, research specialist (120).

The data consisted of the following items:

1) Pretest scores for the experimental and control simulation groups on the following instruments:
   a) Leadership Opinion Questionnaire (LOQ)
   b) Lifestyle Questionnaire (LSQ)
   c) Study of Values (SOV)
   d) Knowledge of Decision-Making (DT)
   e) Adjective Check List (ACL)

2) Post treatment scores for the following instruments on the experimental and control simulation groups:
   a) Leadership Opinion Questionnaire (LOQ)
   b) Knowledge of Decision-Making (DT)
   c) Decision Quality (inbasket score) (DQ)
   d) URB/SIM Instruments
      1. Leadership Style (LS)
      2. Communication Style (CS)

3) Pre- and posttest scores on an untreated control group on the LOQ only.

4) Follow-up longitudinal measurements on the simulation groups using the LOQ.

5) Demographic information which included administrative job experience and teaching experience. (Note: insufficient female
participants precluded analyses relative to sex.)

The basic design is represented in Table 1, below.

**Table 1. Design for data analysis**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th>Number subjects</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>0</td>
<td>ADT</td>
<td>0</td>
<td>SIM</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>B</td>
<td>0</td>
<td>--</td>
<td>0</td>
<td>SIM</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>C</td>
<td>0</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>0</td>
<td>--</td>
<td>--</td>
</tr>
</tbody>
</table>

where: $O_1$ = Pretesting, LOQ, SOV, LSQ, DT, ACL;

$O_2$ = Posttest, DT only;

$O_3$ = Posttest, LOQ;

$O_4$ = Decision Quality (inbasket score) and URB/SIM instruments;

$O_5$ = Follow-up Test, LOQ;

ADT = Audiotutorial decision training;

SIM = Simulation Exercise; and

R = Randomized assignment to group.

The data analysis is separated into four sections. These are (1) Sample homogeneity, (2) Experimental treatment analysis, (3) Reactive effects of testing, and (4) Independent variable correlations. The following methods discussion presents the statistical techniques and
formulas used in the analysis.

Sample homogeneity

The population of educational administration students is a mix of would-be managers and already practicing administrators. There are several levels of employment to which these students may aspire, and, consequently, several levels of required credentials that are to be obtained. The result is a mixture of experience and intent that confounds attempts to employ ideal research sampling techniques.

The present study began with cluster sampling in that the subjects were members of intact classes. The clusters were then stratified on the basis of administrative job experience. From the stratified groups, random assignment to simulation experimental and control groups was accomplished. The first analysis problem was to determine whether this procedure was effective in eliminating threats to experimental validity stemming from sample homogeneity differences. The procedure for testing the effectiveness of the randomization process was the pooled variance t-test (104, p. 101; 52, p. 295).

\[
\begin{align*}
\text{t} &= \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{(n_1 - 1)S_1^2 + (n_2 - 1)S_2^2}{n_1 + n_2 - 2} \left(\frac{1}{n_1} + \frac{1}{n_2}\right)}} \\
\text{where } S_1^2 \text{ and } S_2^2 \text{ are the variances of the two samples.}
\end{align*}
\]

Experimental treatment analysis

One method of analyzing pre- and posttest data is to use a repeated measures design which considers the pre- and posttests as repeated measures, with the factors being administrative experience and experimental/
control group membership. Interactions and differences between factors can then be analyzed for significance and direction of changes.

The repeated measures design is generally more powerful than analysis of gain scores, with the further advantage that it does not require the assumption of homogeneous regression lines pertinent to analysis of covariance. Interactions are thus analyzed through the use of plots and by tests of simple main effects (124, p. 529).

For the two instruments used in this portion of the study, the LOQ and the knowledge of decision-making test (DT), the problem of unequal n's created an unbalanced design requiring a special calculation. Two solutions to this problem are (1) least squares and (2) unweighted means, the latter procedure used herein to generate the ANOVA tables (124, p. 599). For unbalanced designs, the determination of degrees of freedom is slightly different, as shown in the representation of the statistical tables below.

Table 2. Knowledge of decision-making (DT) repeated measures design; frequency table, DT/LOQ

<table>
<thead>
<tr>
<th></th>
<th>Pretest</th>
<th>Posttest</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No admin.</td>
<td>XP</td>
<td></td>
<td>18</td>
</tr>
<tr>
<td>Admin.</td>
<td>XP</td>
<td></td>
<td>10</td>
</tr>
<tr>
<td>A</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experimental</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No admin.</td>
<td>XP</td>
<td></td>
<td>16</td>
</tr>
<tr>
<td>Admin.</td>
<td>XP</td>
<td></td>
<td>12</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>56</td>
</tr>
</tbody>
</table>

Note: The table above shows the frequency distribution of the pretest and posttest scores for the control and experimental groups, with and without administrative intervention.
Table 3. Knowledge of decision-making (DT) repeated measures design; ANOVA table, DT

<table>
<thead>
<tr>
<th>Source</th>
<th>DF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control vs. exp.</td>
<td>a-1 = 2-1</td>
</tr>
<tr>
<td>Exp. vs. control</td>
<td>b-1 = 2-1</td>
</tr>
<tr>
<td>Interaction</td>
<td>(a-1)(b-1) = 1x1</td>
</tr>
<tr>
<td>Subjects within groups (error term 1)</td>
<td>56-(2)(2) = 56-4 = 52</td>
</tr>
<tr>
<td>Time period</td>
<td>c-1 = 2-1</td>
</tr>
<tr>
<td>AC</td>
<td>(a-1)(c-1) = 1x1</td>
</tr>
<tr>
<td>BC</td>
<td>(b-1)(c-1) = 1x1</td>
</tr>
<tr>
<td>ABC</td>
<td>(a-1)(b-1)(c-1) = 1x1x1</td>
</tr>
<tr>
<td>Cx subjects within group (error term 2)</td>
<td>56-(2)(2) x (2-1) = 52</td>
</tr>
</tbody>
</table>

Note: Two error terms appear in the repeated measures design (124, p. 520).

a. Error term 1 is used to test main effect A, B, and the AB interaction.

b. Error term 2 is used to test main effect C, AC, BC, ABC.

Leadership Opinion Questionnaire, repeated measures design

The preceding discussion of this design is generally applicable with one critical difference. In the case of the LOQ, there are three repeated measures. Winer notes that when repeated measures exceed two, one must assume the existence of an equivalent (symmetrical) variance/covariance matrix (124, p. 523). The LOQ is essentially split into two separate
items of interest; Consideration (C) and Initiating Structure (S) in the analysis. The following table shows calculation for degrees of freedom in this case.

Table 4. ANOVA table, LOQ-C and LOQ-S

<table>
<thead>
<tr>
<th>Source</th>
<th>DF</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>a-1</td>
</tr>
<tr>
<td>B</td>
<td>b-1</td>
</tr>
<tr>
<td>AB</td>
<td>(a-1)(b-1)</td>
</tr>
<tr>
<td>Subjects within groups</td>
<td>52</td>
</tr>
<tr>
<td>C</td>
<td>c-1</td>
</tr>
<tr>
<td>AC</td>
<td>(a-1)(c-1)</td>
</tr>
<tr>
<td>BC</td>
<td>(b-1)(c-1)</td>
</tr>
<tr>
<td>ABC</td>
<td>(a-1)(b-1)(c-1)</td>
</tr>
<tr>
<td>Cx subjects within group</td>
<td>104</td>
</tr>
</tbody>
</table>

Decision Quality (inbasket score) analysis of variance Measurement of decision quality was taken as a single posttreatment observation. This allows a two-factor general factorial design, using the unweighted means solution, as shown below:

Table 5. Decision Quality, analysis of variance; frequency table, DQ

<table>
<thead>
<tr>
<th></th>
<th>Control</th>
<th>Experimental</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>No admin.</td>
<td>N = 18</td>
<td>N = 16</td>
<td>34</td>
</tr>
<tr>
<td>B (experience)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>admin.</td>
<td>N = 10</td>
<td>N = 12</td>
<td>22</td>
</tr>
<tr>
<td>Total</td>
<td>N = 28</td>
<td>N = 28</td>
<td>56</td>
</tr>
</tbody>
</table>

46
Table 6. Decision Quality, ANOVA table, DQ

<table>
<thead>
<tr>
<th>Source</th>
<th>DF</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>(a-1) = 2-1</td>
</tr>
<tr>
<td>B</td>
<td>(b-1) = 2-1</td>
</tr>
<tr>
<td>AB</td>
<td>1 x 1</td>
</tr>
<tr>
<td>Residual</td>
<td>N - (level of A)( Levels of B) = 56 -(2)(2) = 52</td>
</tr>
</tbody>
</table>

Leadership style and Communication style  Leadership and Communication style were nominal variables compiled from self-report exercises accompanying the URB/SIM materials, with the single measurement taken at the end of the simulation exercise. The Chi-square test was indicated as the most serviceable analysis of the experimental treatment effect upon these two variables (92, p. 248). The formula for Chi square ($X^2$) is as follows:

$$X^2 = \text{Sum of} \frac{(\text{observed frequency} - \text{expected frequency})^2}{\text{expected frequency}}$$

Reactive effects of testing

The primary defect in the pretest-posttest control group design is that the subject's response to the pretest may act as an advance organizer which influences the subject's response to the treatment. In the case of the LOQ testing, with three repeated measures, it was desirable to obtain some indication of this problem, as well as the test-retest stability of the instrument. The repeated measures analysis of variance was thus expanded to include a third level of control, termed the "testing" group, with calculations shown as per the following tables:
Table 7. Reactive effects of testing, LOQ; frequency table, LOQ

<table>
<thead>
<tr>
<th></th>
<th>Pretest</th>
<th>Posttest</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No admin</td>
<td>18</td>
<td></td>
<td>28</td>
</tr>
<tr>
<td>Admin.</td>
<td>10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experimental</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No admin.</td>
<td>16</td>
<td></td>
<td>28</td>
</tr>
<tr>
<td>Admin.</td>
<td>12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Testing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No admin.</td>
<td>28</td>
<td></td>
<td>35</td>
</tr>
<tr>
<td>Admin.</td>
<td>7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>91</td>
</tr>
</tbody>
</table>

Table 8. Reactive effects of testing, ANOVA, LOQ

<table>
<thead>
<tr>
<th>Source</th>
<th>DF</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>3-1</td>
</tr>
<tr>
<td>B</td>
<td>2-1</td>
</tr>
<tr>
<td>AB</td>
<td>2x1</td>
</tr>
<tr>
<td>Subject within groups</td>
<td></td>
</tr>
<tr>
<td>N - (a)(b) = 91 - (3)(2) = 91-6</td>
<td>85</td>
</tr>
<tr>
<td>C</td>
<td>2-1</td>
</tr>
<tr>
<td>AC</td>
<td>2x1</td>
</tr>
<tr>
<td>BC</td>
<td>1x1</td>
</tr>
<tr>
<td>ABC</td>
<td>2x1x1</td>
</tr>
<tr>
<td>Cx subject within group</td>
<td></td>
</tr>
<tr>
<td><a href="c-1">N - (a)(b)</a> = [91-6] x 1</td>
<td>85</td>
</tr>
</tbody>
</table>
Correlates among independent variables

The literature of management and leadership is replete with standardized, experimental, and proprietary instruments and theories that purport to explain, if not predict managerial or leader behavior. In many cases, the terminology used and attributes described are apparently similar. One question central to this research study was related to the existence of usable correlates which would increase the selection power of leadership training programs through the development of multiple regression prediction equations, as well as pointing out the relationship and utility of certain well-known and standardized instruments with respect to researcher-created measurements. Such knowledge would have a positive effect upon research designs as well as practical considerations of research significance. In order to test for these correlates, the Pearson Product Moment Correlation was employed, using the formula below (52, p. 113).

\[ r_{xy} = \frac{E(X - \bar{x})E(y - \bar{y})}{\sqrt{[E(X-\bar{X})^2][E(Y-\bar{Y})^2]}} \]
CHAPTER IV. FINDINGS

The data for this experiment were analyzed using the procedures outlined in Chapter III. The analysis summarized in this chapter focuses on the following primary considerations: 1) Sample Homogeneity, 2) Experimental Treatment Analysis, 3) Reactive Effects of Testing, and 4) Independent Variable Correlations with Posttest Results.

Sample Homogeneity

To determine if the randomization process used to assign subjects to experimental and control groups was effective in producing sample homogeneity, statistical tests were performed using the dependent variables administration experience, DT pretest, LOQ-C pretest, LOQ-S pretest, Lifestyle Questionnaire (three scales), and the Study of Values (six scales). The statistical procedure used to ascertain if differences in the means on the above variables were significant between the control and experimental groups was the pooled variance t-test.

The means, standard deviations, and resulting pooled variance t-values are presented in Table 9.

As displayed in Table 9, none of the t-values are significant, indicating that the two groups are statistically equivalent on the dependent variables tested. Therefore, there is sufficient evidence to conclude that the randomization procedure used to assign subjects to experimental and control groups was successful and sample homogeneity was achieved prior to the initiation of the experimental treatments.
Table 9. Means, standard deviations, and pooled variance t-test results for the dependent variables used to ascertain sample homogeneity

<table>
<thead>
<tr>
<th>Variable</th>
<th>Control (N=28)</th>
<th>Experimental (N=28)</th>
<th>Combined (N=56)</th>
<th>t-value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>X</td>
<td>S.D</td>
<td>X</td>
<td>S.D</td>
</tr>
<tr>
<td>Administrative experience</td>
<td>1.75</td>
<td>3.17</td>
<td>2.53</td>
<td>4.11</td>
</tr>
<tr>
<td>DT pretest</td>
<td>48.14</td>
<td>5.92</td>
<td>46.07</td>
<td>4.75</td>
</tr>
<tr>
<td>LOQ-C pretest</td>
<td>56.21</td>
<td>5.01</td>
<td>55.60</td>
<td>7.33</td>
</tr>
<tr>
<td>LOQ-S pretest</td>
<td>47.11</td>
<td>8.52</td>
<td>47.86</td>
<td>7.96</td>
</tr>
<tr>
<td>Life style - Formalistic</td>
<td>12.64</td>
<td>5.09</td>
<td>11.96</td>
<td>5.56</td>
</tr>
<tr>
<td>Life style - Socialistic</td>
<td>19.57</td>
<td>4.01</td>
<td>20.07</td>
<td>4.13</td>
</tr>
<tr>
<td>Life style - Personalistic</td>
<td>21.43</td>
<td>5.32</td>
<td>21.32</td>
<td>5.42</td>
</tr>
<tr>
<td>Study of Values - 1</td>
<td>39.36</td>
<td>7.02</td>
<td>42.39</td>
<td>7.46</td>
</tr>
<tr>
<td>Study of Values - 2</td>
<td>42.68</td>
<td>8.44</td>
<td>42.54</td>
<td>8.96</td>
</tr>
<tr>
<td>Study of Values - 3</td>
<td>41.68</td>
<td>10.55</td>
<td>38.86</td>
<td>10.26</td>
</tr>
<tr>
<td>Study of Values - 4</td>
<td>36.82</td>
<td>6.23</td>
<td>39.54</td>
<td>7.15</td>
</tr>
<tr>
<td>Study of Values - 5</td>
<td>41.96</td>
<td>8.35</td>
<td>40.50</td>
<td>7.72</td>
</tr>
<tr>
<td>Study of Values - 6</td>
<td>38.14</td>
<td>11.59</td>
<td>37.86</td>
<td>10.33</td>
</tr>
</tbody>
</table>
Experimental Treatment Analysis

The analysis of the experimental data involved the following dependent variables: (1) DT, (2) Inbasket, (3) LOQ-C, (4) LOQ-S, (5) Leadership Style, and (6) Communication Style.

DT (Knowledge of Decision-Making)

The DT was administered to both the control group and the experimental group on a pretest, posttest basis. The posttest was administered to the groups at the conclusion of the advance organizer treatment (given to the experimental group only), but prior to the initiation of the simulation treatment.

In repeated measures, analysis of variance described in Chapter III, was used to test the following hypotheses for the DT.

Null Hypothesis 1: There is no significant difference between the knowledge of decision-making mean scores of the A treatment levels (control and experimental groups).

Null Hypothesis 2: There is no significant difference between the means of the B treatment levels (no administrative experience and administrative experience groups).

Null Hypothesis 3: There is no significant interaction between the levels of treatment A and the levels of treatment B.

Null Hypothesis 4: There is no significant differences between the knowledge of decision-making mean scores of the C treatment levels (test administrations).

Null Hypothesis 5: There is no significant interaction between the levels of treatment A and the levels of treatment C.

Null Hypothesis 6: There is no significant interaction between the
Null Hypothesis 7: There is no significant interaction between the levels of treatment A, the levels of treatment B, and the levels of treatment C.

The results of the repeated measures analysis of variance (Table 10) indicates a significant main effect C and a significant AC interaction. Therefore, null hypotheses 4 and 5 are rejected. The results do not warrant the rejection of null hypotheses 1, 2, 3, 6, and 7.

Table 10. Analysis of variance of the treatments in the repeated measures design for the DT

<table>
<thead>
<tr>
<th>Source</th>
<th>DF</th>
<th>Mean square</th>
<th>F-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>1</td>
<td>0.07</td>
<td>0.001</td>
</tr>
<tr>
<td>B</td>
<td>1</td>
<td>0.13</td>
<td>0.003</td>
</tr>
<tr>
<td>AB</td>
<td>1</td>
<td>58.13</td>
<td>1.136</td>
</tr>
<tr>
<td>Subjects within groups</td>
<td>52</td>
<td>51.17</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>1</td>
<td>478.03</td>
<td>19.769**</td>
</tr>
<tr>
<td>AC</td>
<td>1</td>
<td>189.25</td>
<td>7.826**</td>
</tr>
<tr>
<td>BC</td>
<td>1</td>
<td>1.49</td>
<td>0.616</td>
</tr>
<tr>
<td>ABC</td>
<td>1</td>
<td>32.64</td>
<td>1.350</td>
</tr>
<tr>
<td>Cx subjects within groups</td>
<td>52</td>
<td>24.18</td>
<td></td>
</tr>
</tbody>
</table>

**p < .01.

The required descriptive statistics are summarized in Table 11. The mean for the DT posttest (51.38) is significantly higher than the DT pre-test mean (47.11). However, this significant C main effect has to be analyzed in conjunction with the significant AC interaction, which
Table 11. Means and standard deviations for the DT pretest and posttest by main effect levels

<table>
<thead>
<tr>
<th></th>
<th>Pretest</th>
<th></th>
<th>Posttest</th>
<th></th>
<th>Total</th>
<th></th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>X</td>
<td>S.D.</td>
<td>X</td>
<td>S.D.</td>
<td>X</td>
<td>S.D.</td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No admin.</td>
<td>47.28</td>
<td>5.57</td>
<td>49.72</td>
<td>7.21</td>
<td>48.50</td>
<td>6.43</td>
<td>18</td>
</tr>
<tr>
<td>Admin.</td>
<td>49.70</td>
<td>6.52</td>
<td>50.40</td>
<td>7.62</td>
<td>50.05</td>
<td>6.93</td>
<td>10</td>
</tr>
<tr>
<td>Subtotal</td>
<td>48.14</td>
<td>5.92</td>
<td>49.96</td>
<td>7.22</td>
<td>49.05</td>
<td>6.67</td>
<td>28</td>
</tr>
<tr>
<td>Experimental</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No admin.</td>
<td>47.25</td>
<td>4.81</td>
<td>52.81</td>
<td>6.62</td>
<td>50.03</td>
<td>5.91</td>
<td>16</td>
</tr>
<tr>
<td>Admin.</td>
<td>44.50</td>
<td>4.38</td>
<td>52.75</td>
<td>5.93</td>
<td>48.63</td>
<td>5.17</td>
<td>12</td>
</tr>
<tr>
<td>Subtotal</td>
<td>46.07</td>
<td>4.75</td>
<td>52.78</td>
<td>6.22</td>
<td>49.43</td>
<td>5.49</td>
<td>28</td>
</tr>
<tr>
<td>Total</td>
<td>47.11</td>
<td>5.42</td>
<td>51.38</td>
<td>6.83</td>
<td>49.25</td>
<td>6.18</td>
<td>56</td>
</tr>
</tbody>
</table>

indicates that control and experimental groups are performing differently across the two testing periods. The AC interaction can best be interpreted by examining the plot of the interaction presented in Figure 1.

Both the control group and the experimental group increased performance on the DT from the pretest to the posttest (resulting in the significant C main effect), however, the gain for the experimental group was much more substantial. The experimental group had a lower mean pretest score (46.07 vs. 48.14), but ended with a substantially higher mean posttest score (52.78 vs. 49.96).

The AC interaction can further be examined by performing tests of
Figure 1. The AC interaction plot for the DT

simple main effects. For this interaction, two sets of tests of simple main effects were required: A test of control versus experimental group at the pretest (AC1), and a test of control versus experimental group at the posttest (AC2); in addition, tests of simple main effects for the pretest mean score versus the posttest score for the control group and the experimental group (labeled A1C, and A2C) were required.

The procedure for performing tests of simple main effects for significant interactions within the repeated measures framework is discussed in some detail in Winer (124, pp. 529-532). To test the simple main effect of factor C (administrations), the F-test takes the form of $F = \frac{MSc_{at\ ai}}{MSc_{x\ subject\ within\ groups}}$. To test the simple main effect
of factor A, the denomination of the F-test is a pooled error term designated MSw cell. The F-test, therefore, takes the form of MSa at cj/MSw cell. To construct the error term, MSw cell, Winer (p. 530) shows that the sum of squares for the subjects within groups and the sum of squares for the Cx subjects within groups are added together and then divided by the sum of the two respective degrees of freedom to arrive at the MSw cell. This pooling of the error terms when testing the simple main effects of factor A is necessary, as Winer notes (p. 530), because when mean scores on factor A are compared separately at the different administrations (pretest and posttest), the design changes to a single factor experiment in which there are no repeated measures.

Winer further shows (p. 530) that the MSw cell error term represents a pooling of what will, in many cases, be heterogeneous sources of variance. As a result, the test of simple main effects for factor A will tend to be biased. According to Winer, the size of the bias is partly a function of the ratio of the two error terms used to form the MSw cell. If the ratio isn't large, the bias will be negligible.

Table 12 presents the tests of simple main effects for the control versus experimental group mean scores at each DT administration. As indicated by the table, there is no significant difference in the DT mean scores between the groups at the pretest (AC1) and the posttest (AC2). However, as pointed out earlier in this discussion, the mean score for the experimental group was lower on the pretest than the control group, but higher on the posttest. As a result, the gain from the pretest to the posttest was greater for the experimental group than for the control
Table 12. Test of simple main effects

<table>
<thead>
<tr>
<th>Source</th>
<th>DF</th>
<th>Mean square</th>
<th>F-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>AC1</td>
<td>1</td>
<td>60.07</td>
<td>1.59</td>
</tr>
<tr>
<td>AC2</td>
<td>1</td>
<td>111.45</td>
<td>2.96</td>
</tr>
<tr>
<td>MSw cell</td>
<td>104</td>
<td>37.68</td>
<td></td>
</tr>
</tbody>
</table>

group. Table 13 presents the simple main effect test for the pretest versus posttest mean scores within group. For the control group (A1C), there is no significant difference between the pretest and posttest scores (48.14 vs. 49.96). However, for the experimental group there is a highly significant difference between the pretest and posttest scores (46.07 vs. 52.78).

Table 13. Test of simple main effects

<table>
<thead>
<tr>
<th>Source</th>
<th>DF</th>
<th>Mean square</th>
<th>F-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1C</td>
<td>1</td>
<td>46.45</td>
<td>1.92</td>
</tr>
<tr>
<td>A2C</td>
<td>1</td>
<td>631.14</td>
<td>26.10**</td>
</tr>
<tr>
<td>Cx subjects within groups</td>
<td>52</td>
<td>24.18</td>
<td></td>
</tr>
</tbody>
</table>

**p < .01.
Decision Quality

Decision Quality scores were obtained through subjective analysis of the structured response instruments generated by each participant. These scores were compiled at the close of the experiment by a trained judging team as explained in Chapter III. Essentially, these scores are a measurement of the decision process on the inbasket problems, and will be discussed herein under the rubric, Inbasket.

A two-way analysis of variance was carried out on the Inbasket scores in order to test the following hypotheses.

Null Hypothesis 8: There is no significant difference between the Inbasket means of the A treatment levels (control and experimental groups).

Null Hypothesis 9: There is no significant difference between the Inbasket means of the B treatment levels (no administrative experience and administrative experience groups).

Null Hypothesis 10: There is no significant interaction between the levels of treatment A and the levels of treatment B.

The analysis of variance for the Inbasket test is summarized in Table 14 with the relevant descriptive statistics presented in Table 15. The analysis shows a significant B main effect. The A main effect and the AB interaction do not reach levels of significance. Thus, null hypothesis 9 is rejected while null hypotheses 8 and 10 are not rejected.

The descriptive statistics reveal that the mean score of 66.04 for subjects having administrative experience is substantially higher than the mean score of 48.71 for subjects having no administrative experience, resulting in the significant main effect B.
Table 14. Analysis of variance for the Inbasket mean scores

<table>
<thead>
<tr>
<th>Source</th>
<th>DF</th>
<th>Mean square</th>
<th>F-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>1</td>
<td>655.24</td>
<td>0.92</td>
</tr>
<tr>
<td>B</td>
<td>1</td>
<td>3724.21</td>
<td>5.25*</td>
</tr>
<tr>
<td>AB</td>
<td>1</td>
<td>199.14</td>
<td>0.28</td>
</tr>
<tr>
<td>Residual</td>
<td>52</td>
<td>709.84</td>
<td></td>
</tr>
</tbody>
</table>

Table 15. Means and standard deviations for Inbasket scores by main effect levels

<table>
<thead>
<tr>
<th></th>
<th>$\bar{x}$</th>
<th>S.D.</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No admin.</td>
<td>47.22</td>
<td>16.63</td>
<td>18</td>
</tr>
<tr>
<td>Admin.</td>
<td>60.10</td>
<td>39.47</td>
<td>10</td>
</tr>
<tr>
<td>Subtotal</td>
<td>51.82</td>
<td>27.07</td>
<td>28</td>
</tr>
<tr>
<td>Experimental</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No. admin.</td>
<td>50.37</td>
<td>21.97</td>
<td>16</td>
</tr>
<tr>
<td>Admin.</td>
<td>71.00</td>
<td>31.55</td>
<td>12</td>
</tr>
<tr>
<td>Subtotal</td>
<td>59.21</td>
<td>27.96</td>
<td>28</td>
</tr>
<tr>
<td>Total</td>
<td>55.52</td>
<td>27.32</td>
<td>56</td>
</tr>
</tbody>
</table>

Combined no administrative experience: $\bar{x} = 48.71$  S.D. = 20.12  n = 34
Combined administrative experience:  $\bar{x} = 66.04$  S.D. = 36.54  n = 22
LOQ-C (Leadership Style: Consideration)

The LOQ-C was administered to both the control and the experimental groups on a pretest, posttest, and follow-up basis. Thus, subjects in the two groups were administered the LOQ-C, three times.

Again the repeated measures analysis of variance described in Chapter III, was used to test the LOQ-C hypotheses. Prior to the application of the repeated measures design, however, a multiple regression run to estimate missing data was used. The repeated measures design requires all subjects to be tested at all testing periods. For the present experiment, several of the subjects failed to respond to the follow-up administration of the LOQ-C. To estimate the missing values, a prediction equation was generated utilizing the LOQ-C pretest and posttest as independent variables and the LOQ-C follow-up as the dependent variable. The resulting prediction model was judged to be satisfactory based on an R-square of 0.8971 and a significant overall F-value of 25.13

The estimated follow-up scores were then added to the experimental data and the following hypotheses tested with regard to the LOQ-C.

Null Hypothesis 11: There is no significant difference between the consideration mean scores of the A treatment levels (control and experimental groups).

Null Hypothesis 12: There is no significant difference between the means of the B treatment levels (no administrative experience and administrative experience groups).

Null Hypothesis 13: There is no significant interaction between the levels of treatment A and the levels of treatment B.

Null Hypothesis 14: There is no significant difference between the means of the C treatment levels (test administrations).
Null Hypothesis 15: There is no significant interaction between the levels of treatment A and the levels of treatment C.

Null Hypothesis 16: There is no significant interaction between the levels of treatment B and the levels of treatment C.

Null Hypothesis 17: There is no significant interaction between the levels of treatment A, the levels of treatment B, and the levels of treatment C.

As shown in Table 16, a significant AC interaction was found. Thus, null hypothesis 15 is rejected. However, there is no evidence to reject null hypotheses 11, 12, 13, 14, 16, and 17.

The relevant descriptive statistics are present in Table 17.

Again, the significant AC interaction indicates that the control and experimental groups are performing differently across the three testing periods. To investigate the interaction, the required cell means were plotted as shown in Figure 2.

Table 16. Analysis of variance of the treatments in the repeated measures design for the LOQ-C

<table>
<thead>
<tr>
<th>Source</th>
<th>DF</th>
<th>Mean square</th>
<th>F-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>1</td>
<td>258.91</td>
<td>2.01</td>
</tr>
<tr>
<td>B</td>
<td>1</td>
<td>48.54</td>
<td>0.38</td>
</tr>
<tr>
<td>AB</td>
<td>1</td>
<td>328.58</td>
<td>2.55</td>
</tr>
<tr>
<td>Subjects within group</td>
<td>52</td>
<td>128.71</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>2</td>
<td>7.31</td>
<td>0.56</td>
</tr>
<tr>
<td>AC</td>
<td>2</td>
<td>132.36</td>
<td>10.18**</td>
</tr>
<tr>
<td>BC</td>
<td>2</td>
<td>2.27</td>
<td>0.17</td>
</tr>
<tr>
<td>ABC</td>
<td>2</td>
<td>24.85</td>
<td>1.91</td>
</tr>
<tr>
<td>Cx subject within groups</td>
<td>104</td>
<td>13.01</td>
<td></td>
</tr>
</tbody>
</table>

** p < .01.
Table 17. Means and standard deviations for the LOQ-C pretest, posttest and follow-up by main effect levels

<table>
<thead>
<tr>
<th></th>
<th>Pretest</th>
<th>Posttest</th>
<th>Follow-up</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>X</td>
<td>S.D.</td>
<td>X</td>
<td>S.D.</td>
</tr>
<tr>
<td>Control</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No admin.</td>
<td>56.00</td>
<td>4.91</td>
<td>53.61</td>
<td>7.09</td>
</tr>
<tr>
<td>Admin.</td>
<td>56.00</td>
<td>5.42</td>
<td>54.50</td>
<td>6.96</td>
</tr>
<tr>
<td>Subtotal</td>
<td>56.21</td>
<td>5.01</td>
<td>53.93</td>
<td>6.93</td>
</tr>
<tr>
<td></td>
<td>53.83</td>
<td>6.99</td>
<td>55.60</td>
<td>6.76</td>
</tr>
<tr>
<td>N</td>
<td>18</td>
<td></td>
<td>10</td>
<td></td>
</tr>
<tr>
<td></td>
<td>28</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experimental</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No admin.</td>
<td>57.00</td>
<td>7.31</td>
<td>59.19</td>
<td>9.09</td>
</tr>
<tr>
<td>Admin.</td>
<td>53.75</td>
<td>7.24</td>
<td>55.85</td>
<td>5.40</td>
</tr>
<tr>
<td>Subtotal</td>
<td>55.61</td>
<td>7.33</td>
<td>57.64</td>
<td>7.81</td>
</tr>
<tr>
<td></td>
<td>57.55</td>
<td>7.82</td>
<td>56.01</td>
<td>7.26</td>
</tr>
<tr>
<td>Total</td>
<td>55.91</td>
<td>6.18</td>
<td>55.79</td>
<td>7.39</td>
</tr>
<tr>
<td></td>
<td>56.32</td>
<td>8.22</td>
<td>56.01</td>
<td>7.26</td>
</tr>
<tr>
<td></td>
<td>56</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The interaction results from the fact that the experimental group attains a higher mean score with each LOQ-C administration (55.61, 57.64, 59.39) while the control group attains a lower mean score with each administration (56.21, 53.93, 53.25). To further investigate the interaction, tests of simple main effects as described with the MMO interaction were calculated. The first set of simple main effect tests involved control versus experimental groups at each of the three time periods (denoted AC1, AC2, AC3); the second set of simple main effect tests involved pretest versus posttest versus follow-up for the control group and for the experimental group (denoted A1C, A2C).

Table 18 summarizes the tests of simple main effects for the control versus experimental group mean scores at each LOQ-C administration. As
Table 18. Test of simple main effects for the AC interaction for the LOO-C

<table>
<thead>
<tr>
<th>Source</th>
<th>DF</th>
<th>Mean square</th>
<th>F-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>AC1</td>
<td>1</td>
<td>5.16</td>
<td>0.10</td>
</tr>
<tr>
<td>AC2</td>
<td>1</td>
<td>193.14</td>
<td>3.74</td>
</tr>
<tr>
<td>AC3</td>
<td>1</td>
<td>528.29</td>
<td>10.24**</td>
</tr>
<tr>
<td>MSw cell</td>
<td>156</td>
<td>51.57</td>
<td></td>
</tr>
</tbody>
</table>

**p < .01

shown by the table, the test of control versus experimental group mean comparison at the follow-up administration is highly significant with the experimental group having the higher mean score (59.39 vs. 53.25). It should also be noted that the F-value at the posttest administration approaches significance at the .05 level, but falls just short of the required table F-value of 3.81. Again, the experimental group achieved the higher mean score at the posttest administration (57.64 vs. 53.93).

Table 19 presents the test of simple main effects for LOQ-C administration within the control group and within the experimental group. Both tests of simple main effects are significant indicating that a trend in administration results exists for both the control and experimental groups. Figure 2 indicates that the control group exhibited a significant negative trend (mean scores of 56.60, 53.93, and 53.25), while the experimental group exhibited a significant positive trend (mean scores of 55.61, 57.64, and 59.39).
Table 19. Test of simple main effects for the AC interaction for the LOQ-C

<table>
<thead>
<tr>
<th>Source</th>
<th>DF</th>
<th>Mean square</th>
<th>F-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1C</td>
<td>2</td>
<td>67.54</td>
<td>5.19*</td>
</tr>
<tr>
<td>A2C</td>
<td>2</td>
<td>100.51</td>
<td>7.728**</td>
</tr>
<tr>
<td>Cx subjects within groups</td>
<td>104</td>
<td>13.01</td>
<td></td>
</tr>
</tbody>
</table>

* p < .05.
** p < .01.

LOQ-S (Leadership Style: Initiating Structure)

As was the case with LOQ-C, the LOQ-S was administered to both the control and the experimental groups on a pretest, posttest, and follow-up basis. Also, prior to the application of the repeated measures design, a multiple regression equation used to estimate missing responses to the follow-up LOQ-S was generated. Again, the prediction equation was judged satisfactory based on an R-square of 0.9132 and a significant overall F-value of 31.26.

The following null hypotheses were then tested using the repeated measures analysis of variance design for the LOQ-S.

Null Hypothesis 18: There is no significant difference between the initiating structure mean scores of the A treatment levels (control and experimental groups).

Null Hypothesis 19: There is no significant difference between the means of the B treatment levels (no administrative experience and administrative experience groups).
Null Hypothesis 20: There is no significant interaction between the levels of treatment A and the levels of treatment B.

Null Hypothesis 21: There is no significant difference between the means of the C treatment levels (test administrations).

Null Hypothesis 22: There is no significant interaction between the levels of treatment A and the levels of treatment C.

Null Hypothesis 23: There is no significant interaction between the levels of treatment B and levels of treatment C.

Null Hypothesis 24: There is no significant interaction between the levels of treatment A, the levels of treatment B, and the levels of treatment C.

Table 20 summarizes the repeated measures analysis of variance results for the LOQ-S. As displayed by the table, there are no significant F-values. Thus, null hypotheses 18, 19, 20, 21, 22, 23, and 24 are not rejected.

Table 20. Analysis of variance of the treatments in the repeated measures design for the LOQ-S

<table>
<thead>
<tr>
<th>Source</th>
<th>DF</th>
<th>Mean square</th>
<th>F-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>1</td>
<td>22.13</td>
<td>0.13</td>
</tr>
<tr>
<td>B</td>
<td>1</td>
<td>307.00</td>
<td>1.79</td>
</tr>
<tr>
<td>AB</td>
<td>1</td>
<td>7.52</td>
<td>0.04</td>
</tr>
<tr>
<td>Subjects within groups</td>
<td>52</td>
<td>171.71</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>2</td>
<td>22.32</td>
<td>0.63</td>
</tr>
<tr>
<td>AC</td>
<td>2</td>
<td>2.48</td>
<td>0.07</td>
</tr>
<tr>
<td>BC</td>
<td>2</td>
<td>5.49</td>
<td>0.15</td>
</tr>
<tr>
<td>ABC</td>
<td>2</td>
<td>12.82</td>
<td>0.36</td>
</tr>
<tr>
<td>Cx subjects within groups</td>
<td>104</td>
<td>35.29</td>
<td></td>
</tr>
</tbody>
</table>
Performance on the three administrations of the LOQ-S is not statistically different between any of the main effect cells. Neither is there differential performance resulting in an interaction. Table 21 summarizes the relevant descriptive statistics for the three administrations of the LOQ-S.

**Leadership Style**

The Leadership Style instrument was administered to both the control and experimental groups at the end of the simulation treatment. The Leadership Style categories place the subjects into one of three possible categories. Since the dependent variable has only nominal properties the Chi-square ($\chi^2$) test of significance was used to test the following hypothesis.

**Null Hypothesis 25:** Leadership style is independent of subject membership in factor A (control and experimental groups).

Table 22 presents the cross-classification table displaying the subject frequency within the respective cells. The $\chi^2$ value of 0.0875 is not significant indicating that leadership style is, in fact, independent of subject membership in either the control group or experimental group. For each group, leadership style 3 is the predominant style. Note that no leadership style 2 was identified.

Since the nonsignificant $\chi^2$ value supports the independence of leadership style, null hypothesis 25 is not rejected. Membership in either the control or experimental group doesn't appear to differentially influence leadership style.
Table 21. Means and standard deviations for the LOQ-S pretest, posttest, and follow-up by main effect levels

<table>
<thead>
<tr>
<th></th>
<th>Pretest</th>
<th>Posttest</th>
<th>Follow-up</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$\bar{X}$</td>
<td>S.D.</td>
<td>$\bar{X}$</td>
<td>S.D.</td>
</tr>
<tr>
<td><strong>Control</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No admin.</td>
<td>46.11</td>
<td>9.04</td>
<td>45.22</td>
<td>8.53</td>
</tr>
<tr>
<td>Admin.</td>
<td>48.90</td>
<td>7.64</td>
<td>48.50</td>
<td>10.97</td>
</tr>
<tr>
<td>Subtotal</td>
<td>47.11</td>
<td>8.53</td>
<td>46.39</td>
<td>9.41</td>
</tr>
<tr>
<td><strong>Experimental</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No admin.</td>
<td>46.06</td>
<td>8.06</td>
<td>46.63</td>
<td>11.11</td>
</tr>
<tr>
<td>Admin.</td>
<td>50.25</td>
<td>7.47</td>
<td>47.82</td>
<td>6.29</td>
</tr>
<tr>
<td>Subtotal</td>
<td>47.86</td>
<td>7.96</td>
<td>47.14</td>
<td>9.22</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>47.48</td>
<td>8.24</td>
<td>46.77</td>
<td>9.36</td>
</tr>
</tbody>
</table>
Table 22. Chi-square ($X^2$) test of independence of leadership style and membership in control or experimental groups

<table>
<thead>
<tr>
<th></th>
<th>Control</th>
<th>Experimental</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leadership Style</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>7</td>
<td>9</td>
<td>16</td>
</tr>
<tr>
<td>3</td>
<td>21</td>
<td>19</td>
<td>40</td>
</tr>
<tr>
<td>Total</td>
<td>28</td>
<td>28</td>
<td>55</td>
</tr>
</tbody>
</table>

$X^2 = 0.0875$

Communication Style

Like the Leadership Style instrument, the Communication Style instrument was administered to both groups at the completion of the experiment.

Since the response format for Communication Style is identical to that of the Leadership Style instrument, the $X^2$ test was again used to test the following hypothesis.

Null Hypothesis 26: Communication Style is independent of subject membership in factor A (control and experimental groups).

Table 23 presents the cross-classification table summarizing the subject frequency within the four cells. The $X^2$ value of 1.8717 is not significant. Thus, there is not sufficient evidence to reject null hypothesis 26. Although, for communication style, the $X^2$ value has a significance level of 0.17 which is approaching significance. Table 24 shows that communication style is distributed equally between style 1 and style 3 for the experimental group, but style 3 is substantially more
Table 23. Chi-square ($X^2$) test of independence of communication style and membership in control or experimental groups

<table>
<thead>
<tr>
<th></th>
<th>Control</th>
<th>Experimental</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communication</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Style</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>8</td>
<td>14</td>
<td>22</td>
</tr>
<tr>
<td>3</td>
<td>20</td>
<td>14</td>
<td>34</td>
</tr>
<tr>
<td>Total</td>
<td>28</td>
<td>28</td>
<td>56</td>
</tr>
<tr>
<td>$X^2 = 1.8717$</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 24. Repeated measures analysis of variance of the treatments in the repeated measures design for the LOQ-C including the "testing" group

<table>
<thead>
<tr>
<th>Source</th>
<th>DF</th>
<th>Mean square</th>
<th>F-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>2</td>
<td>19.638</td>
<td>0.282</td>
</tr>
<tr>
<td>B</td>
<td>1</td>
<td>32.025</td>
<td>0.460</td>
</tr>
<tr>
<td>AB</td>
<td>2</td>
<td>60.925</td>
<td>0.875</td>
</tr>
<tr>
<td>Subjects within groups</td>
<td>85</td>
<td>69.636</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>1</td>
<td>10.787</td>
<td>0.497</td>
</tr>
<tr>
<td>AC</td>
<td>2</td>
<td>63.156</td>
<td>2.912</td>
</tr>
<tr>
<td>BC</td>
<td>1</td>
<td>6.300</td>
<td>0.290</td>
</tr>
<tr>
<td>ABC</td>
<td>2</td>
<td>6.131</td>
<td>0.282</td>
</tr>
<tr>
<td>Cx subjects within groups</td>
<td>85</td>
<td>21.689</td>
<td></td>
</tr>
</tbody>
</table>
frequent than style 1 for the control group. This would account for the $X^2$ value approaching significance, but the differential influence of group membership on communication style isn't of sufficient magnitude to reject null hypothesis 26.

Reactive Effects of Testing

The design selected for this experiment is a variant of the pretest-posttest control group design as discussed in Chapter III. As pointed out by Popham, the primary defect in the design is that the pretest may be reactive (92, p. 209). That is, the pretest, when completed by the subjects, may influence their response to the treatment conditions.

The reactive effect of a pretest is difficult to determine. For the present experiment, the effect of the pretest on subject response to the treatment conditions and ultimately the posttest was investigated by selecting a third cluster of students who were administered the pretest and posttest for the LOQ-C and LOQ-S, but who received no treatment. It must be noted that this third group wasn't selected through random assignment as were the experimental group and control group. This third, or "testing", group was an intact group used to check for both testing effects and reactive effects as sources of invalidity (24, p. 9). Testing effects were not indicated.

The repeated measures analysis of variance design was again used to compare performance of the three groups on the pretest and posttest for the LOQ-C and LOQ-S. Table 24 summarizes the repeated measures analysis of variance for the LOQ-C while Table 26 presents the repeated measures analysis of variance for the LOQ-S. The required descriptive statistics are displayed in Table 25 for the LOQ-C and Table 27 for the LOQ-S. It
Table 25. Means and standard deviations for the LOQ-C pretest and post-test by main effect levels including "testing" group

<table>
<thead>
<tr>
<th></th>
<th>Pretest</th>
<th></th>
<th>Posttest</th>
<th></th>
<th>Total</th>
<th></th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>( \bar{X} )</td>
<td>S.D.</td>
<td>( \bar{X} )</td>
<td>S.D.</td>
<td>( \bar{X} )</td>
<td>S.D.</td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No admin.</td>
<td>56.00</td>
<td>4.91</td>
<td>53.61</td>
<td>7.09</td>
<td>54.81</td>
<td>5.97</td>
<td>18</td>
</tr>
<tr>
<td>Admin.</td>
<td>56.60</td>
<td>5.42</td>
<td>54.50</td>
<td>6.96</td>
<td>55.50</td>
<td>6.13</td>
<td>10</td>
</tr>
<tr>
<td>Subtotal</td>
<td>56.21</td>
<td>5.01</td>
<td>53.93</td>
<td>6.93</td>
<td>55.07</td>
<td>5.97</td>
<td>28</td>
</tr>
<tr>
<td>Experimental</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No admin.</td>
<td>57.00</td>
<td>7.31</td>
<td>59.19</td>
<td>9.09</td>
<td>58.10</td>
<td>8.27</td>
<td>16</td>
</tr>
<tr>
<td>Admin.</td>
<td>53.75</td>
<td>7.24</td>
<td>55.58</td>
<td>5.40</td>
<td>54.69</td>
<td>6.43</td>
<td>12</td>
</tr>
<tr>
<td>Subtotal</td>
<td>55.61</td>
<td>7.33</td>
<td>57.64</td>
<td>7.81</td>
<td>56.63</td>
<td>7.62</td>
<td>28</td>
</tr>
<tr>
<td>Testing</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No admin.</td>
<td>55.61</td>
<td>5.58</td>
<td>55.43</td>
<td>8.12</td>
<td>55.52</td>
<td>6.89</td>
<td>28</td>
</tr>
<tr>
<td>Admin.</td>
<td>56.71</td>
<td>2.98</td>
<td>54.14</td>
<td>5.58</td>
<td>55.43</td>
<td>4.01</td>
<td>7</td>
</tr>
<tr>
<td>Subtotal</td>
<td>55.83</td>
<td>5.15</td>
<td>55.17</td>
<td>7.62</td>
<td>55.50</td>
<td>6.39</td>
<td>35</td>
</tr>
<tr>
<td>Total</td>
<td>55.88</td>
<td>5.81</td>
<td>55.55</td>
<td>7.54</td>
<td>55.72</td>
<td>6.68</td>
<td>91</td>
</tr>
</tbody>
</table>

should be noted that the LOQ-C and LOQ-S follow-up were not administered to the "testing" group and thus the analysis is concerned with two points in time, the pretest and the posttest.

Neither Table 24 nor Table 26 show significant F-values for the tests indicated. However, the F-value of 2.912 for the LOQ-C AC interaction approaches significance. A look at the means shows that the control group drops substantially from the pretest to the posttest (56.21 to
Table 26. Repeated measures analysis of variance of the treatments in the repeated measures design for the LOQ-S including the "testing" group

<table>
<thead>
<tr>
<th>Source</th>
<th>DF</th>
<th>Mean square</th>
<th>F-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>2</td>
<td>13.162</td>
<td>0.180</td>
</tr>
<tr>
<td>B</td>
<td>1</td>
<td>29.875</td>
<td>0.409</td>
</tr>
<tr>
<td>AB</td>
<td>2</td>
<td>43.278</td>
<td>0.592</td>
</tr>
<tr>
<td>Subjects within groups</td>
<td>85</td>
<td>73.113</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>1</td>
<td>12.177</td>
<td>0.386</td>
</tr>
<tr>
<td>AC</td>
<td>2</td>
<td>19.145</td>
<td>0.608</td>
</tr>
<tr>
<td>BC</td>
<td>1</td>
<td>8.252</td>
<td>0.262</td>
</tr>
<tr>
<td>ABC</td>
<td>2</td>
<td>7.291</td>
<td>0.232</td>
</tr>
<tr>
<td>Cx subjects within groups</td>
<td>85</td>
<td>31.471</td>
<td></td>
</tr>
</tbody>
</table>

53.93), the experimental group increase substantially from the pretest to the posttest (55.61 to 57.64), while the "testing" group remains fairly stable from pretest to the posttest (55.83 to 55.17). The stability of the "testing" group would tend to support that the pretest doesn't increase the "test wiseness" developed by the subjects thereby influencing the performance on the posttest. However, the drop by the control group (which received simulation) and the gain made by the experimental group (which received advanced organizers plus simulation) might have been partially due to the reactive nature of the LOQ-C. No conclusion can be drawn, but the reader is cautioned to consider the result in the light of a possible reactive effect of the LOQ-C.

For the LOQ-S, all three groups display rather stable means on the
Table 27. Means and standard deviations for the LOQ-S pretest and posttest by main effect levels including "testing" group

<table>
<thead>
<tr>
<th></th>
<th>Pretest</th>
<th>Posttest</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>X</td>
<td>S.D.</td>
<td>X</td>
</tr>
<tr>
<td>Control</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No admin.</td>
<td>46.11</td>
<td>9.04</td>
<td>45.22</td>
</tr>
<tr>
<td>Admin.</td>
<td>48.90</td>
<td>7.64</td>
<td>48.50</td>
</tr>
<tr>
<td>Subtotal</td>
<td>47.11</td>
<td>8.53</td>
<td>46.39</td>
</tr>
<tr>
<td>Experimental</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No admin.</td>
<td>46.06</td>
<td>8.06</td>
<td>46.63</td>
</tr>
<tr>
<td>Admin.</td>
<td>50.25</td>
<td>7.47</td>
<td>47.83</td>
</tr>
<tr>
<td>Subtotal</td>
<td>47.86</td>
<td>7.96</td>
<td>47.14</td>
</tr>
<tr>
<td>Testing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No admin.</td>
<td>46.86</td>
<td>5.82</td>
<td>48.68</td>
</tr>
<tr>
<td>Admin.</td>
<td>43.71</td>
<td>7.32</td>
<td>40.29</td>
</tr>
<tr>
<td>Subtotal</td>
<td>46.23</td>
<td>6.16</td>
<td>47.00</td>
</tr>
<tr>
<td>Total</td>
<td>47.00</td>
<td>7.46</td>
<td>46.86</td>
</tr>
</tbody>
</table>

pretest and posttest. If reactive effects did exist, the effects had no impact on any gain from pretest to posttest.

As mentioned at the beginning of the section, the reactive nature of the pretest is difficult to determine. For this design, the best procedure is to present the results and caution the reader that the possible influence of the pretest on subject performance on the treatments.
does exist.

Independent Variable Correlations with Posttest Results

To determine if any of the variables collected prior to the initiation of the experiment were related to any of the posttest outcomes, correlations within the control and experimental were computed. The possible correlates come from the variables Life Style (three scales), Study of Values (six scales), administrative experience, and teaching experience. These variables were correlated with the posttest outcome variables DT, Inbasket, LOQ-C, and LOQ-S. If substantial correlations could be uncovered, then the possibility of developing a multiple regression prediction equation that would predict performance on the posttest could be generated.

With this in mind, the Pearson Product Moment Correlation was used to test the following null hypotheses.

Null Hypothesis 27: There are no significant relationships between the variables Life Style (three scales), Study of Values (six scales), years of administrative experience, and teaching experience and the outcome variables DT posttest, Inbasket, LOQ-C posttest and LOQ-S posttest for the control group.

Null Hypothesis 28: There are no significant relationships between the variables Life Style (three scales), Study of Values (six scales), years of administrative experience, and years of teaching experience and the outcome variables DT posttest, Inbasket, LOQ-C posttest and LOQ-S posttest for the experimental group.

Table 28 summarizes the correlations for the control group while Table 29 summarizes the correlations for the experimental group. The relevant correlations appear in the heavily outlined box for each table.
Table 28. Control group correlations (N=28)

<table>
<thead>
<tr>
<th></th>
<th>LS Form</th>
<th>LS Soc</th>
<th>LS Pers</th>
<th>SOV 1</th>
<th>SOV 2</th>
<th>SOV 3</th>
<th>SOV 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>LS Form</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LS Soc</td>
<td>-0.29</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LS Pers</td>
<td>-0.66**</td>
<td>-0.45*</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SOV 1</td>
<td>-0.25</td>
<td>-0.14</td>
<td>-0.41*</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SOV 2</td>
<td>0.17</td>
<td>0.02</td>
<td>-0.15</td>
<td>0.02</td>
<td>--</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SOV 3</td>
<td>-0.41*</td>
<td>-0.15</td>
<td>0.47*</td>
<td>0.03</td>
<td>-0.52*</td>
<td>--</td>
<td></td>
</tr>
<tr>
<td>SOV 4</td>
<td>-0.29</td>
<td>0.53</td>
<td>-0.16</td>
<td>-0.28</td>
<td>-0.14</td>
<td>-0.14</td>
<td>--</td>
</tr>
<tr>
<td>SOV 5</td>
<td>-0.08</td>
<td>0.05</td>
<td>0.00</td>
<td>0.03</td>
<td>0.53**</td>
<td>-0.42*</td>
<td>-0.06</td>
</tr>
<tr>
<td>SOV 6</td>
<td>0.34</td>
<td>-0.08</td>
<td>-0.22</td>
<td>-0.43*</td>
<td>-0.46*</td>
<td>-0.16</td>
<td>-0.06</td>
</tr>
<tr>
<td>Admin.</td>
<td>0.39*</td>
<td>0.27</td>
<td>-0.54**</td>
<td>0.19</td>
<td>0.10</td>
<td>-0.47*</td>
<td>-0.16</td>
</tr>
<tr>
<td>Teach.</td>
<td>0.09</td>
<td>-0.10</td>
<td>0.03</td>
<td>0.17</td>
<td>-0.15</td>
<td>-0.27</td>
<td>0.17</td>
</tr>
<tr>
<td>DT</td>
<td>0.03</td>
<td>-0.22</td>
<td>-0.03</td>
<td>-0.19</td>
<td>-0.01</td>
<td>0.12</td>
<td>-0.17</td>
</tr>
<tr>
<td>Inbask.</td>
<td>0.22</td>
<td>0.33</td>
<td>-0.43*</td>
<td>-0.12</td>
<td>0.15</td>
<td>-0.22</td>
<td>-0.02</td>
</tr>
<tr>
<td>LOO-C</td>
<td>-0.03</td>
<td>0.14</td>
<td>-0.08</td>
<td>-0.23</td>
<td>-0.10</td>
<td>0.12</td>
<td>0.33</td>
</tr>
<tr>
<td>LOQ-S</td>
<td>0.11</td>
<td>-0.23</td>
<td>0.11</td>
<td>-0.18</td>
<td>-0.06</td>
<td>0.10</td>
<td>-0.15</td>
</tr>
</tbody>
</table>

* $p < .05$.

** $p < .01$. 
<table>
<thead>
<tr>
<th></th>
<th>SOV 5</th>
<th>SOV 6</th>
<th>Admin.</th>
<th>Teach.</th>
<th>DT</th>
<th>Inbask.</th>
<th>LOQ-C</th>
<th>LOQ-S</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>-0.44*</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.22</td>
<td>0.10</td>
<td>--</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-0.13</td>
<td>0.15</td>
<td>-0.13</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-0.15</td>
<td>0.00</td>
<td>-0.09</td>
<td>0.19</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>0.33</td>
<td>0.09</td>
<td>0.66**</td>
<td>-0.19</td>
<td>-0.15</td>
<td>--</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>0.18</td>
<td>-0.07</td>
<td>0.17</td>
<td>-0.14</td>
<td>-0.03</td>
<td>0.40*</td>
<td>--</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.19</td>
<td>0.03</td>
<td>-0.05</td>
<td>-0.10</td>
<td>-0.01</td>
<td>0.00</td>
<td>-0.14</td>
<td>--</td>
<td></td>
</tr>
</tbody>
</table>
Table 29. Experimental group correlations (N=28)

<table>
<thead>
<tr>
<th></th>
<th>LS Form</th>
<th>LS Soc</th>
<th>LS Pers</th>
<th>SOV 1</th>
<th>SOV 2</th>
<th>SOV 3</th>
<th>SOV 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>LS Form</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LS Soc</td>
<td>-0.33</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LS Pers</td>
<td>-0.81**</td>
<td>-0.03</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SOV 1</td>
<td>0.16</td>
<td>0.21</td>
<td>-0.25</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SOV 2</td>
<td>0.25</td>
<td>0.06</td>
<td>-0.06</td>
<td>0.23</td>
<td>--</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SOV 3</td>
<td>-0.11</td>
<td>-0.06</td>
<td>0.05</td>
<td>-0.22</td>
<td>-0.55**</td>
<td>--</td>
<td></td>
</tr>
<tr>
<td>SOV 4</td>
<td>-0.31</td>
<td>-0.08</td>
<td>0.18</td>
<td>-0.37*</td>
<td>-0.61**</td>
<td>0.25</td>
<td>--</td>
</tr>
<tr>
<td>SOV 5</td>
<td>0.19</td>
<td>-0.16</td>
<td>-0.11</td>
<td>0.23</td>
<td>0.33</td>
<td>-0.39*</td>
<td>-0.29</td>
</tr>
<tr>
<td>SOV 6</td>
<td>-0.31</td>
<td>0.11</td>
<td>0.26</td>
<td>-0.48**</td>
<td>-0.15</td>
<td>-0.18</td>
<td>0.15</td>
</tr>
<tr>
<td>Admin.</td>
<td>0.45*</td>
<td>-0.30</td>
<td>-0.16</td>
<td>-0.11</td>
<td>0.27</td>
<td>-0.24</td>
<td>-0.06</td>
</tr>
<tr>
<td>Teach.</td>
<td>0.23</td>
<td>-0.08</td>
<td>-0.06</td>
<td>0.04</td>
<td>0.35*</td>
<td>-0.43*</td>
<td>-0.27</td>
</tr>
<tr>
<td>DT</td>
<td>-0.03</td>
<td>-0.16</td>
<td>0.06</td>
<td>0.17</td>
<td>-0.05</td>
<td>-0.08</td>
<td>0.16</td>
</tr>
<tr>
<td>Inbask.</td>
<td>0.21</td>
<td>-0.14</td>
<td>0.02</td>
<td>0.22</td>
<td>0.24</td>
<td>-0.31</td>
<td>-0.16</td>
</tr>
<tr>
<td>LOQ-C</td>
<td>-0.28</td>
<td>0.11</td>
<td>0.13</td>
<td>0.43*</td>
<td>-0.11</td>
<td>0.00</td>
<td>0.14</td>
</tr>
<tr>
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For the control group (Table 28): (1) none of the variables correlate with DT posttest; (2) LS Pers and years of administrative experience correlate with the Inbasket score; (3) none of the variables correlate with LOQ-C posttest; and (4) none of the variables correlate with LOQ-S posttest. Thus, null hypothesis 27 is *not* rejected with the exception of the LS Pers and administrative experience correlations with Inbasket.

For the experimental group (Table 29): (1) none of the variables correlate with DT posttest; (2) none of the variables correlate with the Inbasket score; (3) SOV 1 correlates with the LOQ-C posttest; and (4) SOV 3 correlates with the LOQ-S posttest. Thus, null hypothesis 28 is *not* rejected with the exception of the SOV 1 correlation with the LOQ-C posttest, and the SOV 3 correlation with the LOQ-S posttest.

Because of the few significant relationships, no regression prediction equations were generated. It should be noted that for both the control group and the experimental group, the sample sizes were 28, which requires a rather substantial correlation to reach significance.
CHAPTER V. SUMMARY AND CONCLUSIONS

Summary

The conceptual hypothesis for this study came from the idea that formal preparation of school administrators lacked certain essential components of leadership training. It was suggested that formal graduate education programs bypassed the fundamentals of learning decision-making and leadership behavior, concentrating instead on theoretical concepts. Further, the resultant opportunities to practice newly-acquired management ideas were subject to high risk, on-the-job limitations.

This research was proposed as an exploratory effort to test the idea that a refresher course on leadership and decision-making subsumers would improve management students' problem-solving ability. If the student were then afforded the opportunity to practice this organized knowledge in a low-risk laboratory setting, it was suggested that desired leadership attitudes and skills would be developed.

A search of the literature produced several useful tools for this research proposal. The researcher proposed to use Ausubel's (5) concept of advance organizers with an audiovisual, individualized study format to deliver the relevant subsumers of leadership and decision-making. The knowledge thus gained and/or reorganized would be practiced in a laboratory setting using inbasket simulation as the vehicle. As these tools were developed for use in the study, it became apparent that there were many unknowns and a general lack of supporting research for each. This necessitated adding several embedded operational hypotheses as well as
depending on certain assumptions supported by the literature.

The four major questions considered in this study were related to (1) the concept that advance organizers would improve decision knowledge and decision skills, (2) the idea that simulation provided a useful laboratory environment, (3) the postulate that the interaction of advance organizer training and laboratory practice would produce desired measurable changes in leadership attitudes, and (4) the idea that a predictive equation might be developed as a selection device for educational administrator candidates.

An experimental laboratory research design was proposed and funded for the purpose of exploring these conceptual hypotheses. The research design was a repeated measures variation of the pretest-posttest control group design incorporating randomization. Data processing was conducted at Iowa State University using the Statistical Package for the Social Sciences (SPSS) and Statistical Analysis System (SAS). Analysis techniques included chi square, pooled variance t-tests, first order correlations, regression and analysis of variance. Twenty-eight operational hypotheses were generated from the initial research concepts.

Data collection was supported by investigator-developed instruments and by standardized tests. Measurements were taken on decision quality, knowledge of decision-making concepts and skills, demographic factors, attitudes and values. The Leadership Opinion Questionnaire was the key standardized instrument, while the Study of Values and the Lifestyle Questionnaire were employed to investigate interrelationships suggested in the literature.
The duration of the study was approximately two years. During the first year, the research proposal was written, hardware and software developed, several trial runs were made to select appropriate data collection instruments and establish standard procedures for the laboratory experiment. The research proposal was funded by the Iowa State University Research Grants Committee from a National Science Foundation grant.

The laboratory experiment and data collection processes encompassed the second year. The subjects were educational administration graduate students enrolled in evening and summer term courses. Usable data was generated for fifty-six subjects in the main experiment.

The typical subject was a 34-year-old male with six years of teaching and six years of administrative experience. Thirty-four of the subjects had no administrator experience while twenty-two had some experience ranging from one to eighteen years (80, p. 22). The experimental group (n=28) and control group (n=28) both experienced inbasket simulation without feedback. The experimental group was treated with presimulation leadership decision training. This treatment (advance organizers) was delivered via an audiotutorial independent study format. During this treatment period the control subjects wrote an opinion paper on an unrelated topic.

Statistical analysis of the data yielded the significant results summarized below.

1. The experimental group made highly significant gains in leadership decision knowledge as a result of the advance organizer treatment:
2. Experienced administrators made substantially better quality decisions in response to inbasket simulation problems.

3. Significant and opposing trends were exhibited between groups on the Leadership Opinion Questionnaire construct, Consideration, with the trends continuing into the postexperiment occupational environment.

4. For the control group, decision quality was negatively correlated with the construct, Personalistic Lifestyle, obtained from the Lifestyle Questionnaire (r=0.66).

5. For the experimental group, posttest LOQ Consideration correlated significantly with Allport's et al. (4) construct, Theoretical Man (r=0.42).

6. For the experimental group, posttest LOQ Initiating Structure, correlated negatively with Allport's et al. construct, Aesthetic Man (r=0.49).

There were no other significant findings between or among groups. The following discussion of the conclusions drawn from this study considers
significant and nonsignificant findings relevant to the original hypothesis advanced for this study.

Conclusions

Drawing from the results of the statistical analysis, it can be concluded that:

1. The randomization process used to assign subjects to equivalent comparison groups was successful.
2. Cognitive knowledge of decision-making concepts and principles can be taught by the audiotutorial method.
3. Administrative experience was apparently not a factor in the level of cognitive decision-making knowledge.
4. The level of cognitive decision-making knowledge was apparently not a factor in the quality of decisions made in response to in-basket simulation problems.
5. Experienced administrators produced significantly and substantially better quality decisions on inbasket simulation problems than did nonexperienced people (all of whom had classroom teaching experience, however).
6. Administrator experience was not a significant factor in subjects' entering or attained scores on either the Consideration or Initiating Structure constructs of the Leadership Opinion Questionnaire (LOQ).
7. There were no significant reactive effects of testing evidenced for the Leadership Opinion Questionnaire when tested on a
nontreatment control group.

8. Neither level of experimental treatment (advance organizers and inbasket simulation) had any significant effect on subjects' LOQ Initiating Structure scores. These scores held remarkably stable over the entire duration of the study.

9. Inbasket simulation experience, by itself, produced significant decreases in LOQ Consideration scores.

10. Decision training preceding, and combined with, inbasket simulation produced significant increases in LOQ Consideration scores.

11. LOQ Consideration behavior trends (both positive and negative) persisted into the subjects' postexperimental-treatment environments.

12. Leadership and Communication styles reported by post-mortem inbasket simulation instruments were independent of experimental treatments, and were unrelated to other measured constructs of leadership values and style, or to experimental outcomes.

13. There was insufficient support for a regression-prediction attempt. There were very few significant relationships among the fifteen dependent and independent variables considered in the study. The exceptions were:

a. In the simulation-only control group:

   (1) Decision quality correlated positively with administrator experience.

   (2) Decision quality was negatively correlated with
Personalistic Lifestyle.

b. In the experimental group, but not in the control group; for the LOQ posttest:

(1) Consideration correlated positively with Theoretical Man, a construct from the Study of Values.

Limitations

1. This was an exploratory investigation into the use of advance organizers to enhance leadership and decision-making knowledge and skills. A behavioral leadership model with a functional linkage between leadership and decision-making was assumed.

2. The effectiveness of decision training was assumed to be reflected in behavioral leadership attitudes. This is a narrow definition that ignores contingency factors and weakens the generalizability of the findings.

3. Another fundamental assumption in the study was that the in-basket simulation had no inherent learning effects, thus it could be treated as a controlled laboratory environment. The segmented and extended duration of the simulation exercises weakened this argument.

4. The investigator-developed criterion instruments were subject to the usual flaws, while the selected standardized instruments were only partially appropriate. The criticisms of self-report instruments apply here. The third administration of the LOQ was partially conducted on a voluntary and uncontrolled basis.
5. The advance organizer curriculum developed for the study was the product only of educated opinion in terms of scope and validity. Its duration and content were unsupported by specific research. It didn't conform to Ausubel's prescriptions.

6. The subject samples were small and selective. There were the typical constraints associated with college classroom-based field research with a large percentage of commuting students.

7. Consideration must be given to potential reactive effects of testing.

Discussion and Recommendations

This study was an exploratory effort to investigate several management-training ideas. It was a somewhat complex design, a factor which contributed to the size and selectivity of the samples owing to some exploratory steps necessary to refine the research procedures.

Each of the major issues within this study are worthy of research projects themselves. The purpose of this project was to assemble a learning and research system concept that would promote additional research. To that end, this study was successful in demonstrating potentially new concepts in thinking about the training of educational administrators.

It is important to recognize that one of the fundamental assumptions in this study was that administrator candidates need some kind of basic training in the concepts, principles, skills and processes of leadership and decision-making before they launch into course-work requisites for credentialling and certification. Judging from the results of this study
and drawing from Ausubel's (5) advance organizer concepts, it may be sug­
gested that the foregoing assumption was correct.

It was shown that typical administrator candidates have a relatively
low entering knowledge of the subsumers of leadership and decision-making,
and that this knowledge could be increased significantly in a rather
short time, averaging about ten hours of audiotutorial independent study.
It must be noted that these findings are based on data yielded from a
nonstandardized test and on assumptions of face validity and content valid­
ity for the advance organizer course. Nevertheless, it is also important
to recognize that the assumed instrumentality of audiotutorial instruc­
tion was demonstrated.

Concerning the appropriateness and effects of the advance instruc­
tion, several research findings must be weighed. It is notable that
neither experimental treatment effected any significant change in the
subjects' Initiating Structure posture.

The original impetus for this research came from the idea that al­
leged ineffectuality of school administrators could at least be partly
laid to a deficiency in goal-directing behaviors which may be indicated
as Initiating Structure. It was further postulated that this suspected
deficiency could be caused by inadequate leadership decision-making
skills.

The results of this study indicated that the measured goal-directing
behaviors were (1) unaffected by leadership decision training, or (2) by
inbasket simulation, or (3) by an introductory educational administration
course dealing with the concepts of leadership and administration. It
is further noted that the Initiating Structure scores of the subject group are described as average when compared to other norm groups (see Appendix C). Clearly, future research is indicated by these findings. It seems particularly important to investigate the antecedents of managerial goal directing behaviors and to develop effective change agents.

Corollary to the findings indicated above, it was determined that decision quality, a measure of simulation problem-solving performance, was unresponsive to the experimental training in decision-making. It appears that increased knowledge of relevant subsumers did not transfer to performance. This was a major frustration of the research concept, and it is illogical in light of knowledge about learning transfer. Several reasons might be advanced for this finding.

The most reasonable explanation for the lack of learning transfer is that the course of relevant subsumers was not relevant. Although several experienced educators in the field of management training judged the course to have high content validity, it probably did not. This would tend to explain the larger problem of ineffective administrator training as well. Put simply, educational administration and/or management training specialists really don't know what content should be taught. This position may be supported from the standpoint of the plethora of competing theories in management literature. Certainly, more empirical research is indicated.

Another argument for the failure of the decision improvement experiment is that simulation doesn't work, or at least didn't work in this
situation. Perhaps the simulation lacks those essential elements of reality that would provide personal risk and thus motivate participants. Extensive research into the effects and realities of simulation is indicated.

Any arguments to explain the above failure must not neglect the finding that experienced administrators performed considerably better than persons who were essentially only experienced teachers. Perhaps the motivation of the two groups relative to course enrollment was a factor here. There is also an indication that simulation might be appropriate only for students at some advanced level of progress toward administrator certification. Future researchers should consider these factors when designing studies and collecting data.

Finally, simulation users should be cautioned to provide feedback for maximum learning throughout the simulation experience. Results of this study tend to support the position that the UCEA Wilson High School simulation in and of itself is not a learning experience.

All of the foregoing discussion must be balanced against the rather surprising and almost spectacular findings relating to the Consideration construct. Consideration, defined as a personalistic-participative behavior dimension, seemed to be highly responsive to both simulation and simulation preceded by decision training, but in opposing directions, and irrespective of educator/administrator experienced.

Something in the simulation experience promotes a trend toward lower Consideration scores. Since the subjects demonstrated average to low "C" scores compared to norm groups, simulation users should be very cautious
(see Appendix C). It appeared that the lower Consideration trend extended somewhat beyond the experience and into the home or work environment. This finding seemed to indicate that the simulation experience moved the participants in an undesirable behavioral direction in terms of management leadership.

It is important that a greater data base for LOQ norm referencing be established for educational administrators so that researchers can better surmise the effect and desirability of changes produced by educational and experimental efforts. Nevertheless, the contrary results for the experimental group in this study raise some interesting issues.

The experimental decision-training group made gains in Consideration. It appears that something operating as a result of the decision training not only counteracted the negative effects of simulation but caused significant increases in the personalistic-participative dimension. That this was unrelated to decision quality continues to demonstrate the independence of problem-solving performance from leadership behavior constructs. It also appears that the content of the course of relevant subsumers was relevant to this dimension of leadership behavior.

The content validity of the decision training course may be examined in retrospect. There was considerable emphasis upon values definition and organizational and member behaviors. These aspects of the advance organizers seem clearly applicable to eliciting the kinds of changes demonstrated in the findings. This was an exciting result!

An even more intriguing finding was that the trend to increasing Consideration scores continued beyond the experimental environment. It
may be suggested that the research concept of advance organizers followed by practice was effective. Furthermore, it was effective in the direction that would be expected upon analysis of the subsumer course content. This direction was positive and desirable when considered relative to recommendations in the literature. Owens, for example, summarized leadership research with the conclusion that both Consideration and Initiating Structure reflect good leadership performance when both are above average (90, p. 123).

The findings that Consideration scores developed a trend extending beyond the experimental environment run counter to Fleishman's findings in the International Harvester studies (37). Since this idea has been given minimal research attention, it is suggested that future studies develop a longitudinal theme. Fleishman also found that higher Consideration scores related to lower administrative proficiency (in 50, p. 186-188). Again this is counter to the expectations and orientation of most management training. The sum of these contradictions suggests that future research studies also attempt to obtain measures of effectiveness as correlates to leadership self-report analysis.

It is suggested that future research in this area be tied to an available and applicable standardized instrument, such as the LOQ, that has support in the literature. Investigator-developed and nonstandardized instruments used in this study, yield results too variable to support an ongoing research theme.

Specifically, the instruments supplied with the UCEA Urban Simulation appear useful only for edification of participants. Further, the
Lifestyle Questionnaire provided no particularly useful information. The How Supervise, Adjective Checklist and Study of Values appear to have limited value for studies of this nature. While the Leadership Opinion Questionnaire has detractions due to its noncontingency, two-factor model, it holds one of the best hopes for further research. Investigators would contribute significantly by linking LOQ results with other instruments and/or with well-described contingency factors, and perhaps to utilize the LBDQ, Leader Behavior Description Questionnaire, as a corollary. Further research is needed to match leadership effectiveness with the leadership attitudes reflected by the LOQ. Longitudinal validation studies of the LOQ are also indicated.

This study raised several important questions concerning the UCEA urban simulation. The literature review indicated that the simulation lacked necessary attributes of a complete learning system. It was suggested that this made the simulation suitable as a research site, but the findings relative the negative LOQ Consideration trend raise some questions.

Another factor that weakens the generalizability of the research is that the simulation was conducted over a period of about 6 weeks. Ideally, an experiment would use a concentrated workshop approach, although the more likely educational use is as indicated by this study.

Further empirical investigations are needed to ascertain the value of the simulation as either a research or learning tool. Additional efforts are needed to formulate sets of correct responses for the simulation problems. The potential exists for an organized national effort
to standardize and refine the simulation and to link its use to stand­
ardized, validated instrumentation.

The fact that the response set developed in this study was produced by experienced, rural, midwestern administrators may reflect upon the finding that experienced administrators scored significantly higher, es­
pecially since this was the only indication in the study that the ex­
perience variable was meaningful. It is certainly desirable to investi­
gate further to discover whether simulation is effective for prospective school leaders. Business administration educators appear convinced that simulations provide valuable preservice training. Educator trainers should investigate this fully. Additional findings of significant dif­
fferences between trainees and practicing managers would promote research into factors contributed by job experience.

The issue concerning decision quality remains an enigma. Certainly the findings support Owens's suggestion,

that is not enough to learn about leader behavior; this knowledge must also be internalized and made behaviorally operational before it can affect actual practice. (90, p. 123).

The absence of significant differences in simulation decision-making quality between the experimental and control groups was disappointing. This finding tends to support reports in the literature that there is no direct relationship between leadership attitude and management effective­ness. It also provides support for personnel policies which reward, re­
cruit, and promote retention of experienced personnel.

The lack of significant correlations among constructs with similar descriptions confirmed previous findings. Trait and personality
constructs abound in the literature, resulting in a general confusion about their usefulness (50, p. 184). Explanations for the few significant correlations are difficult for the present data. Probably the most that can be suggested is that future studies should collect data using other promising standardized instruments in a continuing effort to develop predictive factors. It should be relatively easy to do a little testing at the beginning of any graduate course and to encourage a data sharing effort among educational administration professors from a large number of institutions.

The significance of the research findings, then, seems to be that the advance organizer/simulation concept is an effective instructional method. What remains is to study and refine the subsumers and the instructional or research system in order to produce desired and relevant behavior changes.

Replications of this study are probably not indicated. Sufficient issues have been raised herein to allow future research to focus upon specific aspects of this study while retaining the spirit of the conceptual hypotheses. Future investigators may obtain copies of the data and proprietary materials used in this study by contacting the Educational Administration Section, Department of Professional Studies, College of Education, Iowa State University. This study was conducted with funds appropriated by Iowa State University Research Grant Number 420-13-02-27-002.
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APPENDIX A: UNPUBLISHED INSTRUMENTS AND MATERIALS DEVELOPED TO SUPPORT THIS RESEARCH PROJECT
MANATT AND MOELLER

FORM A

(In each question select the best answer. On true-false items enter true as the first choice on the answer sheet; false as the second choice.)

TRUE - FALSE

1. Facts and values are inextricably intertwined in choosing from alternative courses of action.

2. Vertical specialization in an organization focuses on decision-making behavior.

3. Decision-making is the most important function of the administrator.

4. Research has established that administration and decision-making are synonymous.

5. The perceptions of problems is seldom related to one's knowledge regarding the area of the problem.

6. Decision-making can take place even in the absence of more than one alternative (choice).

7. Not to decide is also a decision.

8. Most decision-making in an organization occurs when things are going wrong.

9. The importance attached to administrative decision-making lies in its influence over subsequent behavior in an organization.

10. Decision-making experts agree that one must be trained to make decisions about something in particular.

11. In the process of learning in humans external stimuli alone apparently do not modify behavior.

12. Intelligence is revealed and thinking is evident when students are able to repeat the reasoning of others.

13. Conclusions reached in decision-making stem from two kinds of premises: value premises and factual premises.

14. Behavior can be purposive without being guided by goals and objectives.
15. Decision-making is a sequential process of choosing from among a number of alternatives which stimulate moves or actions.

MULTIPLE-CHOICE

16. Reasons why an issue does not get decided in an organization include:
(a) the question may not be pertinent
(b) it's pertinent but not now
(c) it may be delayed while waiting further information
(d) the person asked to consider it is not competent
(e) all of the above

17. Which is not a characteristic of decision-making?
(a) a single or a series of decisions
(b) action is stimulated
(c) more than one choice must be present
(d) consequences must be predicated
(e) logic must be inductive

18. The finding, organizing, and testing of meanings defines
(a) logic
(b) thinking
(c) rationalization
(d) all of the above
(e) none of the above

19. Which of the following is not true
(a) facts are basic to thinking
(b) persons who solve problems possess the required facts and information
(c) induction must precede deduction
(d) logic is the study of the principles of reasoning
(e) syllogisms are required for inductive reasoning

20. Which are synonymous for critical thinking
(a) reflection
(b) problem solving
(c) cognition
(d) all of the above except reflection
(e) all three—reflection, problem solving, and cognition

21. Human learning behavior would most likely be reinforced by:
(a) feedback that progress is being made toward the learner's goal(s)
(b) pain from electric shock
(c) biological predisposition
(d) conditioning
(e) none of the above
22. The "testing" steps in thinking are believed to include:
   (a) discovery and explanation
   (b) prediction and verification
   (c) major and minor premises
   (d) (a and b)
   (e) (b and c)

23. An hypothesis is
   (a) something assumed to be true for the sake of testing it
   (b) an educated man's hunch
   (c) leads us to cast predictive statements in the form of if-then propositions
   (d) all of the above
   (e) none of the above

24. Decision-making ability
   (a) is best enhanced by training to make decisions about something in particular.
   (b) transfers from mathematics and logic easily
   (c) follows a rather precise process with fixed steps
   (d) begins with prediction-and-verifying activities
   (e) all of the above are incorrect

25. In recent experiments with role playing in simulated schools (e.g., "Whitman School," "Madison Schools," it was found that students differed significantly in
   (a) the preparation put into making a decision
   (b) the amount of work done in a fixed time
   (c) the correctness of their decisions
   (d) (a and b)
   (e) (b and c)

   (Items one through 25 cover decision-making as an individual.)

TRUE-FALSE

26. Logic is used to bring order out of the chaos of experience.

27. Science has introduced so many new concepts in the past century that we no longer speak of truth with the assurance of our great-grandfathers.

28. When one says "the sun will rise tomorrow" he is using inductive logic.

29. Deductive logic follows the premise that what has happened so often before will happen again.

30. Inductive logic follows the premise that what has happened so often before will happen again.
31. Inductive logic makes particular applications of general truths.

32. Inductive logic involves a system of observation and conclusion that makes up the largest part of our mental activity.

33. Public opinion polls are examples of inductive logic.

34. A tenable argument is one that has been proven untrue.

35. Induction leads to generalizations; deduction leads to specific conclusions.

MULTIPLE CHOICE

36. Which is not an example of the inductive process?
   (a) principles of genetics
   (b) Ohm's Law
   (c) "Look ma, no cavities!"
   (d) "All fraternity men are snobs!"
   (e) "Women find giving up cigarettes more difficult than men."

37. A syllogism includes three parts—properly sequenced they are:
   (a) postulates, posits and premises
   (b) premise, counter-premise, conclusion
   (c) minor premise, major premise, conclusion
   (d) major premise, minor premise, conclusion
   (e) baubles, bangles, beads

38. If you wanted to draw conclusions from the observation that all dachshunds have short legs you would
   (a) make comparisons with other breeds
   (b) use a ruler
   (c) use inductive logic
   (d) parse the sentence
   (e) build a syllogism

39. Given the following reasoning, what would be your judgment?
   All dogs are cats
   Fido is a dog
   Fido is a cat
   (a) the major premise is false
   (b) the minor premise is false
   (c) there are not premises
   (d) the conclusion may be true
   (e) the major premise is false if the conclusion is true then the minor premise must be false.
40. A syllogism
   (a) must be definite or it is worthless
   (b) may not have an undistributed middle term
   (c) is correctly organized if it can only have one conclusion
   (d) may be correct by organization but not true
   (e) all of the above are true

41. Major premises
   (a) may have qualifications
   (b) must be universally true
   (c) often are derived from inductive logic
   (d) none of the above are true
   (e) all of the above are true

42. Which of the following is not a requirement for arguing correctly
   (a) syllogism containing not more than three terms
   (b) terms correctly arranged
   (c) premises are true
   (d) no premises are qualified
   (e) definitions constant

43. Select the correct conclusion
   All new Cadillacs are expensive
   My car is a new Cadillac
   (a) I am a snob
   (b) My gas mileage will be poor
   (c) Wouldn't you really rather have a Buick?
   (d) My car may be expensive
   (e) My car is expensive.

44. Select the proper minor premise--
   Only American astronauts have walked on the moon
   ?
   My uncle could not be a Russian cosmonaut
   (a) My uncle has walked on the moon
   (b) Russian astronauts are called cosmonauts
   (c) No one has served as a space explorer for both countries
   (d) My uncle has never even flown
   (e) Given the right conditions, both (a) and (c)

45. Syllogisms are found everywhere in communication but to be true
   (a) must have two premises
   (b) must have a conclusion
   (c) must be arranged in three lines
   (d) none of the above
   (e) all of the above

Items 26-45 cover formal and informal logic.
MULTIPLE CHOICE

46. Values are
   (a) static constructs that guide our line
   (b) independent of the culture and language
   (c) the upper limits of man's desires, the ultimate goals
   (d) dynamic and continuous

47. Aristotelian logic aids man by providing a method to achieve
   (a) reliability
   (b) predictability
   (c) success
   (d) argumentative advantage

48. Keeping diaries is
   (a) demonstrative of an affected personality
   (b) a valuable form of self-therapy
   (c) primarily a waste of time
   (d) indicative of self-consciousness

49. Semantics can affect values by
   (a) bolstering linguistic self-confidence
   (b) no effect; values are independent of language
   (c) weaving a cocoon of confusion around ideals
   (d) changing other's opinions

50. Ideals are
   (a) attainable only when carefully defined
   (b) necessarily abstract
   (c) concomitant with the laws of nature
   (d) the opposite of failure

51. The three Aristotelian laws of logic are consistent with
   (a) the laws of nature
   (b) development of inferiority complexes
   (c) the behavior of man
   (d) scientific objectivity

52. Generalizations of beliefs through contiguity is based on
   (a) differences among things
   (b) similarities between events
   (c) emotional detachment
   (d) logical analysis

53. Tradition is
   (a) the scientific body of knowledge
   (b) based on common sense
   (c) essential to a system of values
   (d) cognizant of change
54. Scientific inquiry is an attempt to
   (a) validate common sense
   (b) generalize on a basis of similarities
   (c) refute traditional values
   (d) explain differences

55. Men behave as if
   (a) reality is constant
   (b) the laws of nature are modifiable
   (c) change is inevitable
   (d) exceptions prove a rule

56. Projection is
   (a) extension of logic over natural events
   (b) giving an opinion
   (c) seldom used by men in daily events
   (d) a technique of calling on higher authority

57. Behavioral psychologists view man as
   (a) good-active
   (b) neutral-interactive
   (c) neutral-passive
   (d) bad-reactive

TRUE-FALSE

58. The role common to administrator, supervisor, and manager alike is decision-making.

59. The focus of administrators', supervisors', and managers' concerns depends upon the level of responsibility and authority they hold in an organization.

60. Organizations which are horizontal tend to have no middle managers.

61. Organizations which are layered tend to have administrators at all levels of organization, although they may not be called administrators.

62. Administrators at the base level of organization for the most part focus their concerns on specific tasks or activities.

63. To be successful, administrators, managers, and supervisors generally have to guard against divulging their plans.

64. The concerns of administrators, supervisors and managers may be classified into three categories: desires, needs, and problems.

65. Comprehensive planning is a process to provide administrators, supervisors, and managers with fool-proof plans for getting things done.
66. Ordinarily a manager is called upon to make more decisions about "things that are going wrong" than about "things that are going right."

67. Decision-making in an organization is quite different from decision-making in private life.

68. To help a top-level administrator be most successful in his accomplishments for the organization, the one thing he needs most is information.

MULTIPLE CHOICE

69. To help a top-level administrator be most successful in his accomplishments for the organization, the thing he needs most is:  
(a) charisma  
(b) looks  
(c) poise  
(d) speech  
(e) information

70. To help a middle-level manager to be most successful in his accomplishments for the organization, the one thing he needs most is:  
(a) charisma  
(b) looks  
(c) poise  
(d) speech  
(e) information

71. To help a boss-level supervisor to be most successful in his accomplishments for the organization, the one thing he needs most is:  
(a) charisma  
(b) looks  
(c) poise  
(d) speech  
(e) information

72. The systems approach to comprehensive planning is one way to reduce:  
(a) interoffice memoranda  
(b) the number of decisions that have to be made  
(c) erroneous information  
(d) the number of communication channels between decision-makers  
(e) "if-then" predictions

73. Which is not a requisite of decision-making information?  
(a) quantity  
(b) relevancy  
(c) accuracy  
(d) stability  
(e) none of the above
74. The decision-making activity in an organization is based upon
(a) type of concern
(b) organizational level of responsibility focus
(c) information
(d) (a and b)
(e) (a and b and c)

75. A huge organization such as U.S. Steel most likely will use
(a) a vertical organizational structure
(b) a horizontal organizational structure
(c) a synergistic organizational structure
(d) management by objectives
(e) green stamps to increase sales

76. As a school administrator moves from a small school district to a
very large district (in both instances as a principal) he would ex­
tpect to encounter
(a) more accurate decision-making
(b) less decision-making at top
(c) a horizontal organizational structure
(d) a vertical organizational structure
(e) participatory management

77. If authority and responsibility are (in both the small and large dis­
trick) properly placed, a school principal moving up in school size
would expect:
(a) to make more policy decisions
(b) to make less policy decisions
(c) to make policy only for his building
(d) to make as much policy as his decision-making skill allows
(e) to make no policy; that's a board's perogative

78. Because of prior experience as a teacher and a principal, a person
newly appointed to a superintendency
(a) will have the requisite value system for decision-making in the
new role
(b) will have had much experience in the gathering of information
for the decision-making of the new role
(c) will be making about the same kinds of decisions as before but
will be more concerned about costs
(d) will still be primarily concerned about how children learn
(e) will make decisions based on premises drawn both from his value
system and his knowledge of the facts.

Items 58-78 cover decision-making in organizations.

TRUE-FALSE

79. When teachers don't meet our expectations in teaching methodology, it
is likely that either more information or exhortation (or both) are
required.
80. When analyzing performance problems, if a person knows how but still
doesn't perform adequately you are safe in assuming motivation is lacking.

81. "Transfer or terminate" is the last resort for most administrators in business.

82. Administrators in the educational sector tend to use inservice workshops as a cure-all for teacher performance problems.

83. The use of reward incentives as a means of changing teacher performance smacks of bribery and should be avoided.

84. When working with performance problems, the prime alternatives for the manager are "change the man or change the job."

85. A performance discrepancy is a performance deficiency.

86. A performance deficiency is a performance discrepancy.

87. A principal should provide performance feedbacks to his teachers primarily for motivation.

88. The provision of formal training (in the form of inservice workshops) should be a last resort in improving teaching skills.

**MULTIPLE CHOICE**

89. Assuming a performance discrepancy exists which is a genuine skill deficiency which of the following would be an inappropriate tentative solution.

90. In analysis of performance problems, the first question to ask is (a) What event caused me to say that changes must be made? (b) Is there a mechanical solution? (c) Can we use a team mate? (d) Does the discrepancy really matter? (e) Are the workers happy?

91. Whenever you hear someone say of another "he oughta wanna" or some variation of that, you can be pretty sure (a) the skill deficiency is important (b) it's a skill deficiency (c) the discrepancy is due to lack of practice (d) that you are not dealing with a skill deficiency (e) that someone's in deep trouble.
92. Once you are sure the performance problem is a skill deficiency
   (a) you can forget about motivation
   (b) you can specify the formal training necessary
   (c) inquire as to whether the worker ever had the skill
   (d) try on-the-job training
   (e) provide structured feedback

93. "Practice makes perfect"
   (a) in most cases
   (b) should be changed to practice makes for boredom
   (c) isn't true with highly intellectual endeavors
   (d) only with incentives
   (e) only when you have information about how well you are practicing

94. Task simplification includes
   (a) checklists
   (b) mechanical aids
   (c) instructions
   (d) all of the above
   (e) all but "c"

95. A truly professional teacher
   (a) keeps details and formulas in his head
   (b) constantly strives for task simplification to gain a shorter working day.
   (c) is fully trained, thus needs no performance aids
   (d) uses recall and judgment as little as possible

96. Putting the best available person in a job
   (a) may produce underperformers
   (b) is seldom done in education
   (c) is really lazy personnel practice
   (d) all of the above
   (e) a and c

97. If the discrepancy is not due to skill deficiency
   (a) performance management is impossible
   (b) change the job so that doing it will be more attractive, less repulsive, or less difficult
   (c) an inspirational workshop is called for
   (d) a principal's hands are tied since he cannot change the job's salary
   (e) motivation must be increased

98. Resistance to change
   (a) means people oppose new concepts
   (b) is best overcome by providing favorable consequences
   (c) is best overcome by persuasion
   (d) is more common among males than females
   (e) is an adaptation to avoid "future shock."
This is an open book examination to help you develop a working knowledge of the Wilson High School and Monroe City background materials. The questions have been selected at random from the fifteen background books and two handbooks which you will be issued. It would be advantageous to read all of the materials before starting the exam; by then you will probably know the answers and not need to search. At least, you will know where to look, and in either event a time savings will result.

Please mark your answers on the enclosed scoresheet and do not mark the test sheets. Select the best answers.

1. Wilson High has a(n) ___________ campus.
   a. open  
   b. traditional  
   c. modified-open  
   d. guarded

2. How many Monroe City adults feel the schools are doing an outstanding job?
   a. 8%  
   b. 35%  
   c. 17%  
   d. 83%

3. Pupils who are discipline problems and can't be retained in regular classes are
   a. expelled  
   b. transferred to "juvi-hall"  
   c. placed in special homerooms  
   d. sent out on work-study

4. The Monroe City population is
   a. 83% white  
   b. 42% black  
   c. declining  
   d. generally wealthy

5. Serious disciplinary problems are
   a. disrespect  
   b. Smoking  
   c. profanity  
   d. all of these

6. The MCEA has
   a. rejected binding arbitration  
   b. supported busing  
   c. agreed not to strike  
   d. a significant community power position

7. This year, you receive $________ in state support for _____ pupils.
   a. $100, ADM  
   b. $175, ADA  
   c. $175, ADC  
   d. $100, vocational

8. There is ample evidence of municipal-school district cooperation, as represented by
   a. the 1968 tax referendums  
   b. police protection of campus  
   c. annexation proposals  
   d. none of these

9. Most of your students perform ___________ national norms.
   a. above  
   b. below  
   c. at  
   d. more below than above
10. You may expect future contract negotiations to include provisions calling for
   a. binding arbitration
   b. extension of teacher decision-making
   c. greater authority vested at the principal's level
   d. inclusions of principals in MCEA

11. Wilson's history of racial disturbances is typified by
   a. a gymnasium "lie-in" in which 73 students were suspended
   b. five students arrested in the parking lot, bearing clubs, chains, and knives
   c. removal of your predecessor for "racist activities"
   d. none of these

12. Inner-city and suburban teachers demonstrate notably uniform opinions about the students in the system.
   a. true
   b. false

13. The dropout problem is being met by
   a. reducing academic requirements
   b. special accelerated diploma programs
   c. refusing to grant out-of-school work-experience credit
   d. severe penalties for truancy

14. Where would you look for a description of your duties?
   a. staff handbook
   b. the Administrative Guide
   c. the Principals' Handbook
   d. background pamphlet 10

15. The Teachers' Advisory Council is an important link involving teachers in the decision-making process.
   a. true
   b. false

16. School board meetings are typically
   a. dull, rubber-stamp proceedings
   b. Spirited and well-attended
   c. ignored by the media
   d. dominated by President Davis

17. The NAACP
   a. opposes student disturbances
   b. has asked HEW to withhold funds, alleging discrimination
   c. represents a tight coalition of the black community
   d. does not discriminate in its membership policies

18. The narcotics problem in schools
   a. is minimal
   b. is handled under a section of the Adminis. Guide
   c. is a matter of automatic police referral
   d. is covered by the discretionary powers of the principal

19. Considerable radio and television time is available to the school on a regular basis
   a. true
   b. false

20. Per pupil expenditure is approximately $
   a. 390
   b. 660
   c. 700
   d. 635
PARTICIPANT REACTION FORM

complete applicable parts of this form for each In-Basket item

1. WHAT IS THE PROBLEM?

2. WHAT INFORMATION IS NEEDED TO TAKE ACTION?

3. WHAT IMMEDIATE ACTION DO YOU PLAN TO TAKE?

4. WHAT ARE THE SHORT- AND LONG-RANGE SOLUTIONS?

5. WHAT STEPS SHOULD BE TAKEN TO IMPLEMENT THE SOLUTIONS?
Scoring Procedure For In-Basket-One Problems

Realizing this is a subjective analysis of the participant's behavior, use the following technique to score his responses. You may of course, use your own good judgment to determine whether the responses are "in the ball park".

SCORE:

2 Points for correct solution.

1 Point for each "fact" that the participant considered; drawing the "facts" from the enclosed revised set of best solutions.

(-1) Point for spurious responses which indicate a lazy or facetious attitude toward the problem.

Tally the score for each participant, either by name (if available), social security number, or other identifying number. You will probably use the "Problem Solution" sheet (Blue) for most of the scoring, but should also look through the letters, memos, etc. for any additional points that might have been covered in that person's response style. (But, only one point for one distinct "fact", even though he may have used it several times).

When finished with the scoring, please return all your materials; background books, in-baskets, problem sets, etc. to Larry Moeller, 228 Curtiss Hall, or to the secretary in 230 Curtiss. Place your score sheet in a plain white envelope and put that on top of the stack so that it can be found!

Thanks Much,

Larry Moeller
ITEM 1

DESCRIPTION:

French teacher wants to hold class outside on lawn

PERCEIVED PROBLEM:

Appropriateness of the activity

PERTINENT FACTORS:

SHORT TERM:

(1) Existing policy guidelines
(2) Teacher's reasons for doing so
(3) Instructional benefits to accrue

LONG TERM:

(1) Avoidance of setting precedent
(2) Need exists to establish some guidelines
(3) Should be a teacher decision; too trivial for principal
(4) No existing policy

BEST SOLUTION:

(1) Refer matter to a vice-principal for action. Take up at faculty meeting. Inform secretary that vice-principal will handle these problems.
(2) Less satisfactory solutions: (a) Handle every such request on an individual basis; (b) flat denials for reasons ranging from precedent to perceived inappropriateness of such activities to fear of community reaction.

PROJECTED EFFECTS:

SHORT TERM:

(1) Establish self as follower of existing policy
(2) Define expected role of vice-principal
(3) Define flow of communications to principal's desk

LONG TERM:

(1) Probably need to establish some guidelines which specify level in such matters.
(2) Formulate administration rule specifying level of responsibility for decisions

RESPONSE MODES:

Verbal to vice-principal
IN-BASKET ONE

ITEM 2

DESCRIPTION:

Vandalism inside school during the day

PERCEIVED PROBLEM:
(1) Student attitudes toward school property
(2) Insufficient supervision

PERTINENT FACTORS:

SHORT TERM:
(1) Could damage be due to small group or an individual rather than a whole student body?
(2) Type of damage; major locations; time of day of occurrence, etc.
(3) Are damage areas in currently supervised areas?
(4) Who can be assigned to supervisory duties?

LONG TERM:
(1) Past history of vandalism
(2) Are there factors which correlate with increased vandalism?

BEST SOLUTION:
(1) Immediate increase in supervision of affected areas
(2) Discuss problem with faculty and student council and student body
(3) Initiate repairs and consult with custodians
(4) Identify offenders if possible

PROJECTED EFFECTS:

SHORT TERM:
(1) Reduction of damage
(2) Possible added expense for supervisory activities

LONG TERM:
(1) Formulate an effective supervisory plan
(2) Deal with faculty perceptions of responsibility for controlling damage and other misbehavior
(3) Initiate study to determine causes
(4) Formulate plan to effect attitudinal changes in students

RESPONSE MODES:
Verbal contact with persons identified under best solution
IN-BASKET ONE

ITEM 3

DESCRIPTION:

Racial tension threatens an important football game and traditional activities.

PERCEIVED PROBLEM:

Feared racial clash, eruption of riot

PERTINENT FACTORS:

SHORT TERM:
(1) Determine actual amount of tension, situations at both schools
(2) Involve central office in decision
(3) Investigate availability of facilities in event of change
(4) Alert local security forces

LONG TERM:
(1) School district should have task force to study racial problems and search for ways to alleviate

BEST SOLUTION:
(1) Hold game on Saturday
(2) Hold march and pep rally as scheduled
(3) Notify all parties; use local media, but explain situation so they don't inflame with sensationalism

PROJECTED EFFECTS:

SHORT TERM:
(1) Defuse high emotions, avoid confrontation
(2) Deny darkness cover to agitators
(3) Dampen traditional rivalry somewhat

LONG TERM:
Alert community and school district to developing problems; precipitate action program

RESPONSE MODES:
Telephone calls, meetings
IN-BASKET ONE

ITEM 4

DESCRIPTION:
Demanding letter from CMACAO; group wants voice in curriculum

PERCEIVED PROBLEM:
Pressure from a lay group

PERTINENT FACTORS:
SHORT TERM:
(1) Is CMACAO representative of community?
(2) Are they aware of recent administrative change?
(3) Own willingness to recognize CMACAO
(4) Attempt to ascertain previous relationships

LONG TERM:
Determine whether any citizen's committee already exists for curriculum matters

BEST SOLUTION:
Communicate with Mr. Edens, in a letter addressed to whole organization, making it clear that you are interested in what they have to recommend, but unfortunately have other commitments. Suggest they appoint a representative small group to meet with you on your own territory.

PROJECTED EFFECTS:
SHORT TERM:
Avoid submittal to group demands, but leave the door open for establishment of rapport

LONG TERM:
(1) More mutual respect for one another
(2) Possible establishment of a valuable relationship with citizen's groups

RESPONSE MODES:
Letters (best); telephone calls (Potential to cause argument)
IN-BASKET ONE

ITEM 5

DESCRIPTION:

Coach Dake alleges that janitor, Elijah Washington, has been drinking on the job

PERCEIVED PROBLEM:

A serious and potentially scandalous personnel matter

PERTINENT FACTORS:

SHORT TERM:

Are the allegations true?
Who else can substantiate?
How much are the students already talking?
Check personnel record of janitor

LONG TERM:

Potential effect on student attitudes and community attitudes toward administration, authority, rules

BEST SOLUTION:

(1) Conference with coach and head custodian together. Give head custodian authority to resolve if possible. Require close attention and a report. If substantiated, and behavior is not changed, pass problem to central personnel office for action with recommendations

(2) Ask vice-principal to investigate through counselors and staff, the extent of student awareness of situation

(3) Stop by custodian's work station and detect breath

PROJECTED EFFECTS:

SHORT TERM:

Verify or puncture allegations. Attempt to dispatch potential problem with compassion. Avoid instigating rumor throughout school

LONG TERM:

Remediation will eliminate problem; failure will necessitate quick, firm action to maintain respect for supervisory authority.

RESPONSE MODES:

Face to face meetings with coach and chief custodian, also with vice-principal
IN-BASKET ONE

ITEM 6

DESCRIPTION:
Notice of a university workshop next weekend

PERCEIVED PROBLEM:
Value of attendance

PERTINENT FACTORS:

SHORT TERM:
(1) Time available; content of program
(2) Possibility of subordinates who might wish to attend

LONG TERM:
Personal professional development
Opportunity to advance professional social contacts

BEST SOLUTION:
A purely personal decision, but requires the decency of a response
Bring to immediate attention of subordinates

PROJECTED EFFECTS:

SHORT TERM:
Maintain a rapport with university
Insure communication with immediate staff

LONG TERM:

RESPONSE MODES:
Telephone
ITEM 7

DESCRIPTION:

PTA informs you that you are scheduled to address meeting on subject of grading

PERCEIVED PROBLEM:
Essentially a demand from an important unofficial advisory body

PERTINENT FACTORS:

SHORT TERM:
(1) Demanding nature of "invitation"
(2) Preparation of speech on short notice
(3) Current controversy possibly surrounding topic

LONG TERM:
Need to establish working relationship with PTA

BEST SOLUTION:
Plan to attend and advise Mrs. Eastly. Make general speech and take along resource person from faculty for specifics

PROJECTED EFFECTS:

SHORT TERM:
Maintain a good relationship with PTA
Sample opinion of concerned parents and faculty in an informal setting

LONG TERM:
Establish respect for own position and duties

RESPONSE MODES:
Letter
IN-BASKET ONE

ITEM 8

DESCRIPTION:

Influential Mrs. Mann demands *Soul on Ice* be removed from library; has already tilted with librarian

PERCEIVED PROBLEM:

Opinionated individual meddling in school affairs

PERTINENT FACTORS:

SHORT TERM:
(1) Find out about Helen Mann
(2) Recognition of complaint will probably only encourage further meddling
(3) Stand behind librarian
(4) Book is an important one to blacks
(5) Check out board policy

LONG TERM:
(1) Avoidance of issues created by small, noisy groups or individuals
(2) Freedom of choice in selection of reading material
(3) Contact publisher's representative for public relations help

BEST SOLUTION:

Ignore the demand. Do not acknowledge the communication. Inform librarian that you stand by her decision and advise her to direct future complaints of this nature to you without comment. If not personally aware of nature of book, find out! (An amazing number of respondents apparently were unfamiliar with the book.)

PROJECTED EFFECTS:

SHORT TERM:
(1) Possible short-lived tempest; letter to newspaper, etc.
(All to be ignored.)
(2) Probable enemy for awhile.
(3) Set up committee to work out policy under ALA guidelines

LONG TERM:
Refusal to acknowledge or debate such trivial and narrowly conceived issues will eventually reduce the frequency of them. Newspaper editors love to have such a controversy rage on the editorial page!

RESPONSE MODES:
None is best! (Memo to librarian)
IN-BASKET ONE

ITEM 0

DESCRIPTION:

Board of Education mandates a grievance council to handle student disturbances and activism. Written progress report is due next week.

PERCEIVED PROBLEM:

Determine the progress in your school and respond. Initiate action if none has been taken.

PERTINENT FACTORS:

SHORT TERM:

Has action on this begun under predecessor?

LONG TERM:

BEST SOLUTION:

Find out whether your predecessor initiated action. If not take steps to do so. Make copy of directive available to the groups to be involved and ask them to contact you. Prepare to report whatever progress is made, explaining circumstances of delay.

PROJECTED EFFECTS:

SHORT TERM:

Compliance with Board request

LONG TERM:

Establish council

RESPONSE MODES:

Letters
ITEM 10

DESCRIPTION:

Beth Saynor, head cheerleader, criticizes school dress code in letter to student newspaper.

PERCEIVED PROBLEM:
Issue of censorship

PERTINENT FACTORS:

SHORT TERM:
(1) Criticality of the issue
(2) Suppression of dissent (judging from the situation, this might be an historical procedure)

LONG TERM:
Question of basic student rights
Staff censorship of student expression

BEST SOLUTION:
(1) Allow publication
(2) Advise Marie Lynn of decision.
(3) Discuss dress-code issue with vice-principals
(4) Take up censorship issue with hournalism sponsor
(5) Write open letter to editor encouraging openness

PROJECTED EFFECTS:

SHORT TERM:
Go on record as permissive toward responsible dissent

LONG TERM:
Foster atmosphere of openness. Definitely a good issue for student council and/or the proposed grievance council

RESPONSE MODES:
Memo to M. Lynn
IN-BASKET ONE

ITEM __11__

DESCRIPTION:

Letter from Jake Hamsoe accusing Driver Education instructor of "familiarity" with a female student

PERCEIVED PROBLEM:

Validation of accusation

PERTINENT FACTORS:

SHORT TERM:

(1) Identify student and teacher accused
(2) Reliability of Hamsoe
(3) Would be unusual for instructor to be out with only a single student: review procedures

LONG TERM:

Insure there are always at least 2 students in car.

BEST SOLUTION:

Meet with Driver Education instructors and supervisor and explain circumstances. Review procedures to guard against such accusations. Invite (anonymously) the involved teacher to meet with you in private to arrange defense in case of publication. Check on Hamsoe with other administrators.

PROJECTED EFFECTS:

SHORT TERM:

Depending on validity of accusation, and upon Hamsoe's motivation, issue could become public.

LONG TERM:

Revision of procedures to improve immunity from such problems. Alert faculty to necessity for cautious conduct with students.

RESPONSE MODES:

Mostly face-to-face with driver education staff. Phone calls to other principals. Best to ignore accuser. Don't play detective.
DESCRIPTION:

Mr. Tack's P.O.D. class wants to hold school-wide mock election to coincide with state and national election. Some faculty oppose. Department head lukewarm (Tyser).

PERCEIVED PROBLEM:
Probably fear of disruptive activities and just plain stuffy traditionalism

PERTINENT FACTORS:

SHORT TERM:
(1) Excellent and creative learning opportunity
(2) True faculty opinion, school-wide
(3) Potential for activities causing racial conflict
(4) Why is Tyser lukewarm?

LONG TERM:
Avoid unnecessarily straining faculty relationships
Increase innovative school-wide learning activities

BEST SOLUTION:
Support the mock election. Meet with Tack and Tyser to determine (1) planning to insure orderly conduct and (2) nature of opposition. Have them take completed plan before faculty group (possibly department heads only)

PROJECTED EFFECTS:

SHORT TERM:
Encourage innovative ideas
Satisfactory compromise in Social Studies department
Chance for a relevant learning activity

LONG TERM:
Encourage creativeness and interdisciplinary learning
Establish an expectation of the necessary planning you will require before considering ideas

RESPONSE MODES:
Face-to-face after alerting by memo
IN-BASKET ONE

ITEM 13

DESCRIPTION:

White girl, Judy Clark, is dating black. Girl is on probation after suspension from Lathrop High. Parents have little interest, but older sister will help. Black girls are incensed

PERCEIVED PROBLEM:

(1) Possible violent confrontation
(2) Judy needs help to remain in school

PERTINENT FACTORS:

SHORT TERM:

(1) Counselor unable to establish relationship with Judy
(2) Racial conflict is brewing, could enlarge
(3) Judy has been continual disciplinary problem
(4) Reasons for dating relationship
(5) Determine if any staff member has rapport with Judy

LONG TERM:

What is likelihood that any "schoolhouse" solution will alter the social behavior or defuse the conflict?

BEST SOLUTION:

(1) Judy: Have a team of counselors review the case; distinct possibility of referral to school psychologist
(2) Conflict: Cause is outside your jurisdiction; may be able to deflate somewhat by initiating a group counseling session on the mixed dating problem. If primary parties know they are identified, they may be less likely to carry out violence (at least on school premises).

PROJECTED EFFECTS:

SHORT TERM:

Avoid violent conflict on school premises
Gain Judy more time and professional counseling

LONG TERM:

Possibly save Judy's face (literally) and halt her downhill slide (Most respondents didn't see much hope, some tried to play counselor themselves).

PRERESPONSE MODES:

Memos to counselors
ITEM  14

DESCRIPTION:
    Underground newspaper at Lathrop. Relationship to Wilson incident

PERCEIVED PROBLEM:
    Did incident actually occur?
    What underlying factors prompted the paper?

PERTINENT FACTORS:

SHORT TERM:
    Investigate alleged incident

LONG TERM:
    Possibility that encouragement of more open and responsible dissent through regular channels (student paper, grievance council) will undermine usefulness of the underground paper

BEST SOLUTION:
    Ignore the article. Continue efforts to insure freedom of speech in own school. Have assistant investigate legitimacy of incident for information purpose, only. Continue to be alert to further editions of paper.

PROJECTED EFFECTS:

SHORT TERM:
    Continue to humanize own school

LONG TERM:
    Establishment of healthier atmosphere of peaceful dissent; elimination of unfair practices. Look into board policy on student publications, with possible need to establish a policy of no publications.

RESPONSE MODES:
    Letter or call to other principal thanking for information
    (Many respondents failed to respond at all to colleague)
IN-BASKET ONE

ITEM 15

DESCRIPTION:

Mr. Tyser requests purchase of 4 teaching machines based on results of university study. Also wants to establish that negroes should use them more.

PERCEIVED PROBLEM:
(1) Justification of teaching machines based on possible misrepresentation of findings
(2) Tyser's apparent belief that negroes are less intelligent and more needing of such instruction

PERTINENT FACTORS:

SHORT TERM:
(1) Verify validity of the NCU study
(2) Budget
(3) Nature of teacher's attitude toward racially-based abilities

LONG TERM:

BEST SOLUTION:
(1) Ask Tyser to prepare proposal substantiating value of devices (including extensive review of literature) and contact university researchers
(2) Determine reasons for Tyser's racial ideas concerning education in face-to-face meeting

PROJECTED EFFECTS:

SHORT TERM:
Postpone decision until all facts are available

LONG TERM:
Possible inservice topic if racial ideas are widespread in staff: Racial and cultural differences in intelligence or ability. Chance to dispel some myths and disarm some prejudices. Possible device to improve instruction

RESPONSE MODES:
Memo to Tyser initiating action on his part
ITEM 16

DESCRIPTION:

School nurse's letter concerning student pregnancies and school board policy forbidding dispensation of birth control information.

PERCEIVED PROBLEM:

Nurse's viewpoint that students are using pregnancy as a way to get out of school

PERTINENT FACTORS:

SHORT TERM:
(1) What is "high number" of pregnancies?
(2) Policies on pregnant students
(3) Age and wording of board policy
(4) New members on school board
(5) Central office position on matter

LONG TERM:
Possibility of changing board policies

BEST SOLUTION:

(1) If problem is primarily Mrs. Prince's interpretation, work out a way to bring her up to date.

(2) If problem actually exists, study situation in detail. Involved conferences with central office, other principals, school nurses; if problem is ascertained, ask superintendent to approach board.

PROJECTED EFFECTS

SHORT TERM:
Review of the policies surrounding student pregnancy, marriage, sex education, birth control information

LONG TERM:
Changes in policies

RESPONSE MODES:
Letters, phone calls
IN-BASKET ONE

ITEM 17

DESCRIPTION:

Central office request for list of discussion items concerning police action

PERCEIVED PROBLEM:

Determine problems specific to Wilson High

PERTINENT FACTORS:

SHORT TERM:

(1) Present policies vs. present problems

(2) Personal unfamiliarity with school system

LONG TERM:

BEST SOLUTION:

Shunt task to vice-principals who are familiar with problems and procedures. Review before sending up

PROJECTED EFFECTS:

SHORT TERM:

LONG TERM:

Changes in policies concerning use of police

RESPONSE MODES:

Memos
IN-BASKET ONE

ITEM 18

DESCRIPTION:

Four students eligible for free lunches are refusing to return forms. Parents are agreeable to school position.

PERCEIVED PROBLEM:

Students' dignity is damaged.

PERTINENT FACTORS:

SHORT TERM:
Verify need.
Should be able to trust Parker's judgment.
Even if forms are channeled around students, will they eat the lunch?

LONG TERM:
What factors in lunch operation reveal identity of needy students.
How are forms disseminated? State law concerning free lunches; work cannot be substituted.

BEST SOLUTION:
Send forms directly to parents. Make lunch tickets available in anonymous fashion to all students so identified. Have counselors discuss with students to determine reasons for refusal. Have assistants investigate procedures. (Only one respondent was aware of the state law governing lunch policy.)

PROJECTED EFFECTS:

SHORT TERM:
Lunches made available
Student attitudes sampled

LONG TERM:
Changes in distribution policies. Develop positive attitude on part of professional and noncertified staff concerning free lunches and those eligible.

RESPONSE MODES:
Memos or personal contact
ITEM 19

DESCRIPTION:

Church wants to present Christmas play to student body.

PERCEIVED PROBLEM:
Appropriateness of activity; potential for controversy over religion in school.

PERTINENT FACTORS:

SHORT TERM:
- Board policy
- Setting precedent for other requests

LONG TERM:
- Precedence vs. policies

BEST SOLUTION:
Deny request. Offer use of school facility for after-hours presentation if policies and schedule permit.

PROJECTED EFFECTS:

SHORT TERM:
- Avoidance of religion-in-school controversy

LONG TERM:
- Define limits and extent of cooperation with community agencies.

RESPONSE MODES:
- Letters to Rev. Spaker
DESCRIPTION:

Complaint from Special Education director that his students are being shutout by vocational teachers.

PERCEIVED PROBLEM:

Failure of vocational teachers to meet intent of school policies

PERTINENT FACTORS:

SHORT TERM:
(1) Is this a problem at Wilson?
(2) Are facilities adequate and instructors qualified?

LONG TERM:
(1) Program of current curriculum indicates inadequate vocational offerings
(2) Possibility of state/federal financial support for such programs

BEST SOLUTION:
Arrange meeting of instructors in both areas to discuss situation. Report back to Dr. Hayward when facts are known.

PROJECTED EFFECTS:

SHORT TERM:
Determine facts at Wilson

LONG TERM:
Curriculum revision
Review need for addition of staff and facilities.

RESPONSE MODES:
Primarily memos
IN-BASKET ONE

ITEM: Telephone call—SPONGE

DESCRIPTION:

Call from parent whose son is afraid to come to school, alleged threat from black students *viz* membership in SPONGE club.

PERCEIVED PROBLEM:

(1) Potential danger to student
(2) Possible existence of underground organization of white students

PERTINENT FACTORS:

SHORT TERM:
(1) Investigate existence of SPONGE
(2) Truth of Ralph's story to father
(3) Racial tension at Wilson
(4) Protection available

LONG TERM:
Necessity of solving racial tensions at Wilson

BEST SOLUTION:
Advise parent to notify police and telephone company; send student to school. Have assistant look into SPONGE. Suggest special security measures to protect student to and from school and advise Ralph to stay in groups. Talk with Ralph about details of his story.

PROJECTED EFFECTS:

SHORT TERM:
Protect student

LONG TERM:
Settle the difficulty that gave rise to problem

RESPONSE MODES:
Telephone; personal contact with parties involved in solution
ITEM: Filmed incident -- Sally

DESCRIPTION:
Student sent to office for misbehavior, found by teacher loitering near cafeteria. Ensuing arguments place both teacher and student in difficulty. Vice-principal's handling of situation only obscures the initial issue.

PERCEIVED PROBLEM:
Enraged teacher and disagreement between he and Mr. Black resulting from Sally turning the whole problem around

PERTINENT FACTORS:

SHORT TERM:
(1) Validity of teacher's (Mueller) action initially
(2) Witnesses to initial scuffle
(3) Sally's story
(4) Mr. Black's story

LONG TERM:
Teacher's attitude toward this girl and other blacks
Student's behavior pattern

BEST SOLUTION:
Separate conferences with each of the parties to conflict
(Sally's story untrue based on cum file; she has no sister.)
(Teacher's records incomplete)

PROJECTED EFFECTS:

SHORT TERM:
Cool off teacher
Reprimands in both cases
Students who witnessed will be looking for indications of fairness

LONG TERM:
Deep-seated problems which bear on entire atmosphere at Wilson, and must be looked into

RESPONSE MODES:
Face-to-face
IN-BASKET ONE

ITEM: Audio interruption by secretary

DESCRIPTION:
Teacher and custodian reported scuffling in hall

PERCEIVED PROBLEM:
Unbecoming behavior in front of students

PERTINENT FACTORS:

SHORT TERM:
Is it really a fight, or something else? Immediate action required

LONG TERM:
Staff relations

BEST SOLUTION:
Go to scene, stop activity and disperse students. Have immediate conference with both men and resolve conflict.

PROJECTED EFFECTS:

SHORT TERM:
Cessation of disturbance
Resolution of conflict

LONG TERM:

RESPONSE MODES:
Face-to-face
ITEM: Audio interruption—students force way into office

DESCRIPTION:

Students demand to see new principal to express demands.

PERCEIVED PROBLEM:

Gangster-like behavior

PERTINENT FACTORS:

SHORT TERM:

Unacceptable behavior
Organized group of dissenters

LONG TERM:

Student grievances

BEST SOLUTION:

Immediately indicate dissatisfaction with mode of behavior. Refuse to speak with them under immediate circumstances and arrange for them to present grievances through representative by appointment later in day.

PROJECTED EFFECTS:

SHORT TERM:

Establish willingness to deal with grievances, but only under circumstances of good conduct.

LONG TERM:

Get that grievance council going!

RESPONSE MODES:

Face-to-face
IN-BASKET ONE

ITEM: Audio interruption—Bomb threat

DESCRIPTION:
Telephoned bomb threat to secretary

PERCEIVED PROBLEM:
Decision as to whether the threat is serious

PERTINENT FACTORS:

SHORT TERM:
Validity of threat vs. prank or crank call
Decision on school evacuation
Past history of such threats

LONG TERM:

BEST SOLUTION:
(1) Contact police for bomb squad, also fire department.
(2) Call central office (supt.) and advise that you are requesting police help.
(3) Initiate fire-drill. Hold students in area. Have auditorium checked first, then move students into that area while rest of building is checked.

PROJECTED EFFECTS:

SHORT TERM:
(1) Insure student safety.
(2) There will be considerable interest from various agencies and media in community.
(3) Do not send students home and encourage more threats.

LONG TERM:
Outline standard procedures for action in future

RESPONSE MODES:
Telephone, and personal supervision once outside
IN-BASKET ONE

ITEM: Audio interruption--door nailed shut

DESCRIPTION:

Teacher's door nailed shut while he is inside office.

PERCEIVED PROBLEM:

Poor supervision of students in shop area

PERTINENT FACTORS:

SHORT TERM:
(1) Immediate action necessary
(2) Release Mr. Bryan
(3) Sounds more prank-like than vandalous
(4) Discipline students

LONG TERM:
(1) Relationship between Bryan and students
(2) Possible lack of supervision or too much permissiveness

BEST SOLUTION:
Send assistant to handle students. Have students involved undo their deed if possible, otherwise have custodian remove nails. Discuss the reasons this happened with Mr. Bryan.

PROJECTED EFFECTS:

SHORT TERM:
Release teacher
Discipline students for damaging property

LONG TERM:
Ensure that this sort of thing does not recur

RESPONSE MODES:

Personal
IN-BASKET ONE

ITEM: Filmed incident—outside advice

DESCRIPTION:

Citizen group demands uniformed police throughout building following racial fight.

PERCEIVED PROBLEM:
Overreaction by community group which is apparently somewhat conservative.

PERTINENT FACTORS:

SHORT TERM:
(1) Reasons that led to fight
(2) Involved students were suspended
(3) Strong community pressure group

LONG TERM:
Past history of such disturbances
Supervisory factors that could eliminate or reduce recurrent outbreak

BEST SOLUTION:
Take NNPSC demands under advisement, but make no commitments. Insure them that you have already taken steps to prevent future fights.

PROJECTED EFFECTS:

SHORT TERM:
Angry committee members
Set up ad hoc committee to make investigation of problem and produce recommendations.

LONG TERM:
Search for ways to improve race relations. This is not only a school problem.

RESPONSE MODES:
No immediate response except as above
SIMULATION INSTRUCTIONS

Name ___________________________ SSAN __________ Date __________

Age ______ Sex __________

Your experience as Administrator or Teacher; state number of years each:
Teacher: __________ years;
Administrator: __________ years;

Pretesting Phase
Administer: Leadership Opinion Questionnaire; Study of Values; Life Style Questionnaire; Administrative Decision-Making

Audio-Tutorial Phase
Keep notebooks loaded with expandable materials; provide envelopes or folders for completed work; check recorders and tapes periodically for problems. Posttest with "Decision-Making."

Simulation Phase
1. Show: Monroe City Background film (20 minutes)
   "Wilson High School" slides & cassette and sound track
   "Monroe City" (Filmstrip) slides & cassette
   Play: "John Wells" cassette & "CAMACO" cassette

2. Distribute Background materials (by packet number).
3. Distribute In-Basket I and Work material packets to each student.
4. Explain "Data Bank", use of problem analysis forms (Blue), work materials.
5. Simulate!
   Interrupt periodically with cassette-taped interruptions--"Bomb Threat", "SPONGE", "Secretary", "Student Force" and "Nailed Door".
   Use 2 filmed incidents--"Sally" and "Outside Advice".
   Simulation should take 9-10 hours total--NO TAKE HOME

Postsimulation
1. Posttesting
   Retest with LOQ

2. Collect individuals' solution sets in separate folders; place In-Baskets back in order (also refill work materials packs), collect background materials.
3. Distribute action analysis profiles and instruction sets provided with simulation; allow take-home self analysis.
LIFE-STYLE QUESTIONNAIRE

This questionnaire consists of 18 statements of opinions and attitudes. There are no right or wrong answers on the questionnaire.

For each statement, please indicate in the answer blocks which of the three alternatives a, b, or c is most true, or most preferred, or most important to you by circling a, b, or c, in the MOST column.

Then choose the least true or least preferred of the three alternatives and circle its letter in the LEAST column.

For every statement, be sure you circle one alternative in each column. If 'a' is circled under MOST, then either 'b' or 'c' should be circled under LEAST.

Do not debate too long over any one statement; your first reaction is desired.

-------------------------------------

1. When I enter new situations I let my actions be MOST LEAST
   guided by:
   a. my own sense of what I want to do.
   b. the direction of those who are responsible.
   c. discussion with others.
   b c a b c a

2. I prefer dealing with people who:
   a. are in positions of responsibility and influence.
   b. are close colleagues.
   c. respect me for doing what I want to do.
   a b c a b c

3. I especially try to avoid:
   a. not being myself.
   b. going against precedent and those who are responsible.
   c. not checking with my colleagues or friends.
   b c a b c a

4. I grow and progress best in this world by:
   a. finding out the way things ought to be done.
   b. learning and sharing with others.
   c. finding out what I want to do most.
   a b c a b c
5. I believe that my feelings and emotions:
   a. should generally be shared and acknowledged with others.
   b. should generally be shared and acknowledged at my discretion.
   c. should generally not be shared or acknowledged.

   MOST       LEAST
   c a b       c a b

6. I believe that my life will be most satisfying if:
   a. I am free, within broad limits, to choose how I want to live.
   b. there are clear guidelines to use in advancing and being appropriately rewarded.
   c. my friends and colleagues are committed to me.

   b c a       b c a

7. The true value of my work should be apparent:
   a. shortly after completion.
   b. as it is being completed.
   c. several years after completion

   c a b       c a b

8. I want to treat others:
   a. as separate individuals.
   b. as equals.
   c. according to how much competence, responsibility and influence they have.

   c b a       c b a

9. My living experiences are useful primarily to help me:
   a. share with others for agreement and development.
   b. establish my interests and abilities.
   c. verify the standards set by society

   c a b       c a b

10. I can only get the really important things in life by:
    a. doing what I want to do.
    b. accomplishing more than the next fellow.
    c. working with friends and colleagues

    b c a       b c a

11. I will do what is right when I follow:
    a. the guidelines and policies that have been set up.
    b. the agreements I have made with my friends.
    c. my own sense of what is right.

    a b c       a b c
12. I am responsible to _______ for my actions:  
   a. other people, friends, colleagues, wife, children.  
   b. those in positions of higher responsibility.  
   c. myself.  

13. I believe that what this world needs more of is:  
   a. more people who "do their thing".  
   b. more agreement among diverse people.  
   c. more people who respect and abide by the laws.  

14. I believe the world would be a better place if:  
   a. I received clearer guidance from those more effective and wiser than I.  
   b. I figured things out more clearly for myself.  
   c. my colleagues and I were clearer on where we stand.  

15. Over time, I have learned from my experience that:  
   a. those who have gone before us often know best.  
   b. only through discussion with others can we progress.  
   c. I am truly unique and separate.  

16. I believe an important route to happiness in life is:  
   a. to reach consensus with others about what is important.  
   b. to know what is expected of me by others.  
   c. to know what I want.  

17. In order to be a financial success in this world, I must learn to:  
   a. relax, it is not really important.  
   b. find ways to cooperate with others.  
   c. find ways to do better than others.  

18. It is important that I:  
   a. plan at least a year or two ahead.  
   b. live my life to the fullest now.  
   c. think now about my career.
SCORE = (MOST) minus (LEAST) plus 18

F" Score ___ minus ___ plus 18 = ___
S" Score ___ minus ___ plus 18 = ___
P" Score ___ minus ___ plus 18 = ___

Check total, should be 54 ___

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<tr>
<th>SCORES</th>
<th>F</th>
<th>S</th>
<th>P</th>
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</thead>
</table>

Based on:


Used in studies by:

Gallagher, Dennis
Taddeo, Kenneth -- Case Western Reserve University School of Management--Organizational Behavior Group
Grinnell, Sherman
HUMAN SUBJECT DATA RELEASE AUTHORIZATION

The undersigned hereby recognizes that he/she is participating in a testing program for research purposes which includes a personality inventory. It is understood that the data collected on any individual will be protected and the scores used for reporting normative results. The testors are herewith released from any liability action on the part of the testee concerning such use of the data.

Name (print) ________________________________

Signed ________________________________ Date ________________________________
APPENDIX B: PUBLISHED INSTRUMENTS USED FOR DATA COLLECTION


3. UCEA Monroe City Urban Simulation Self-Analysis Profiles: (1) Action Analysis (leadership style) and (2) Means of Communication, University Council for Educational Administration, 29 West Woodruff, Columbus, Ohio.
Table C.1. Subject profile (80, p. 22)

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Table C.2. Life-style Questionnaire, descriptive profile, I.S.U. Educational Administration graduate students, n = 89

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PROFILE OF VALUES

The profile can be best interpreted if the scores obtained are compared with the following ranges. (Detailed norms for college students and for certain occupations will be found in the Manual of Directions.)

**Men**

High and low scores. A score on one of the values may be considered definitely high or low if it falls outside the following limits. Such scores exceed the range of 50% of all male scores on that value.

- **Theoretical**: 39-49
- **Economic**: 37-48
- **Aesthetic**: 29-41
- **Social**: 32-42
- **Political**: 38-47
- **Religious**: 32-41

**Outstandingly high and low scores.** A score on one of the values may be considered very distinctive if it is higher or lower than the following limits. Such scores fall outside the range of 82% of all male scores for that value.

- **Theoretical**: 34-54
- **Economic**: 32-53
- **Aesthetic**: 21-47

**Women**

High and low scores. A score on one of the values may be considered definitely high or low if it falls outside the following limits. Such scores exceed the range of 50% of all female scores on that value.

- **Theoretical**: 31-41
- **Economic**: 33-43
- **Aesthetic**: 37-48
- **Social**: 37-47
- **Political**: 34-42
- **Religious**: 37-50

**Outstandingly high and low scores.** A score on one of the values may be considered very distinctive if it is higher or lower than the following limits. Such scores fall outside the range of 82% of all female scores for that value.

- **Theoretical**: 26-45
- **Economic**: 28-48
- **Aesthetic**: 31-54
Table C.3. Leadership Opinion Questionnaire, descriptive profile, I.S.U. Educational Administration students, n = 126 (initial test administration)

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<th>Foremen N = 463</th>
<th>Executives N = 314</th>
<th>Middle Managers N = 672</th>
<th>Bank Managers N = 114</th>
<th>Store and Assistant Store Managers N = 337</th>
<th>University Students N = 557</th>
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Table C.4. Knowledge of Decision-Making test, descriptive profile, I.S.U. Educational Administration graduate students, initial administration

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