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THREE APPLICATIONS OF THE MANAGEMENT OF LEARNING GRID

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Three factors seem to be prerequisite to effective learning in experiential environments:

1. The dissemination of new ideas, principles, or concepts, which will be captioned CONTENT.

2. An opportunity to apply CONTENT in an experiential environment, which will be defined as EXPERIENCE.

3. FEEDBACK as to the results of actions taken and the relationship between performance at each chronological phase in EXPERIENCE and the subsequent result.

An effective instructional style is created when a proper balance is obtained between these three factors much in the same way that an effective leadership style is obtained when the proper balance between task orientation and people orientation is obtained (1) Consequently, this paper will present a three dimensional model entitled, "The Management of Learning Grid." The grid is a descriptive model, rather than a normative one, based on an extensive study of empirical literature of learning in experiential environments (See Figure 1) (6). This paper will briefly describe the grid and present three developmental projects which incorporate balanced dimensions of "The Management of Learning Grid."

STYLES OF LEARNING MANAGEMENT

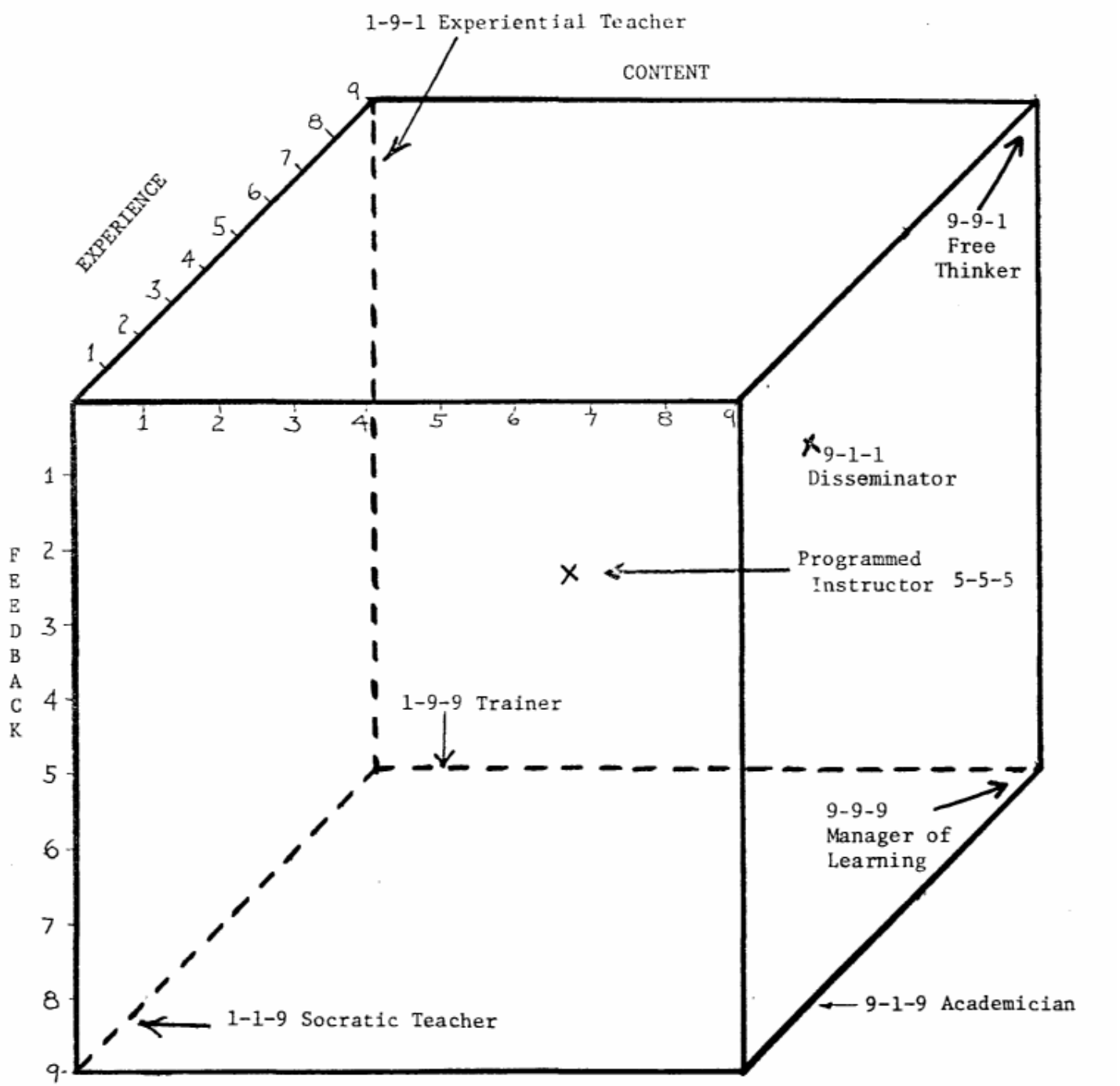
The next section of this paper will deal with a number of descriptive statements hypothesizing the style of learning management which is likely to derive from various combinations of these three factors. Figure 1 will assist in clarifying this process.

Figure 1 consists of a three dimensional grid, or cube, whose perimeter is composed of the three factors described above: CONTENT, EXPERIENCE, and FEEDBACK. The CONTENT scale reads from left to right suggesting different degrees of emphasis on lecture, readings and other forms of information delivery systems. The FEEDBACK scale reads down the page signifying different quantities of feedback. FEEDBACK might consist of such things as financial statements in a business game or an instructor's comments in response to a written report. The EXPERIENCE scale of the grid is read as a third dimension, up and to the right of the grid.

The general concept of "The Management of Learning Grid" was stimulated by Blake and Mouton's "Managerial Grid" (1). Their "Managerial Grid"

FIGURE 1

The Management of Learning Grid



attempted to organize a single structure for the myriad of human relations theories in existence at the time of its conception. It is hoped that "The Management of Learning Grid" will serve such a purpose for the development of future research in experiential environments. For a complete description of the grid, see reference (6).

An attempt was made to blend the three grid dimensions in a balanced fashion in the three training programs described below.

In-Basket Exercise

When Oklahoma City revised its training program in 1971, it sought out participative training techniques which would incorporate the human resource development content of the Fundamentals of Supervision course and would be relevant to the jobs of all first level supervisors (foremen and crew chiefs) regardless of their departmental functions. An "in-basket" simulation was developed based on a critical-incident interview of 50 first level supervisors who were chosen at random to represent all departments in the municipal structure. Participants were placed in the role of the superintendent of public works, one level above their real-life roles. However, much of the action in the simulation was directed toward a first level supervisor reporting to this superintendent who never quite seemed to conclude his own problems.

The in-basket simulation contained 30 items, some related and a few unrelated ones. On their first day, supervisors were required to organize the in-basket in some orderly arrangement and to become familiar with all the in-basket incidents, the simulated environment in which they were to operate for four weeks. Also, they were required to establish priorities for decision making. Later, on another day of the laboratory session, cases were "exploded" into full-fledged projects such as an appraisal of all the people in a crew for possible promotion to supervisor.

Evaluation of Results

The second major task of this study was to determine the relative effectiveness of Oklahoma City's in-basket simulation as compared with the traditional lecture course, Fundamentals of Supervision (2). Using statistical techniques, both fundamentals and simulation were evaluated on the basis of measurements taken before training and again after training. The instruments used were Kirkpatrick's Supervisory Inventory of Human Relation (SIHR) and the File and Remmer's How Supervise? forms A F_4 B (3).

In addition to measuring change in knowledge which could be attributed to the training, the participants' perceptions of subordinates and superiors were obtained at the start of each course and again two months later. The instruments used for these measurements were a modification of Marvin's Management Matrix (10). For t values on this study, see the reference (2).

No significant differences were found between these two groups evaluated on the basis of their pre-test knowledge of human resource development. Likewise, post-test measurements revealed gains which were insignificant for the conventional classroom--the fundamentals participants. Their F scores on the SIHR and on the How Supervise? forms showed changes which could have occurred by chance at least five times in 100.

In distinct contrast, the simulation groups showed highly significant gains. Their F score indicated change on the SIHR which could occur by chance only one time in a thousand while the How Supervise? F score showed change which was significant at less than the .05 level. Overlooking statistical jargon, this implies that the in-basket technique quite likely was instrumental in raising the knowledge level of facts and concepts regarding human relations and human resource development.

A Two-Level Hierarchy Business Policy Course

At Oklahoma Christian College the Behavioral Business Concepts course (a freshman introductory course) and the Business Policy Seminar have been designed to incorporate the learning grid criteria (8, pp. 280-290). Three graduating seniors are assigned teams of approximately seven or eight freshmen students and required to play 8 decisions of The Executive Simulation (5). The classes met together in the order shown below:

(BBC - Behavioral Business Concepts)

(SPS - Senior Policy Seminar)

M	T	W	T	F
BBC	SPS	BBC SPS	SPS	BBC

SPS students are assigned several classic texts in management. No examinations are required. They meet with the same class professor who teaches BBC. On Tuesday and Thursday, the class discusses experiences which they have had in motivating BBC students to organize, appoint leaders, establish goals, and develop strategy. Seniors are encouraged to take a personal interest

in freshmen, to help them develop a positive self-image and to give them the confidence and the incentive to complete their college education.

The Simulation Activities

The Executive Simulation is a fourteen variable total management game with approximately equal emphasis in marketing, production, and finance (5). In addition, the game includes four unique planning sheets which allow a person completely uninitiated in the business field to make reasonably rational decisions within a hypothetical year of operation.

Evaluation

Since this course is still in the pilot project stage, very little statistical evaluation is being done. In order to get some idea of the human relations understanding of our freshmen and seniors, we gave a pre and post test using Kirkpatrick's Supervisory Inventory on Human Relations (9). The results are reported in a previous study (8).

Since we offered only one section of this course and had no control group, this test was of limited value. It did indicate a considerable difference between human relations knowledge of freshmen and seniors, and some positive gain for both during the semester. All of these differences could probably be attributable to many other things. Since our seniors are scoring above the national average of practicing supervisors on this test, we probably need to utilize a test that includes more differentiation in future controlled studies. Therefore, significance tests were not conducted.

A more useful evaluation was a test known as Marvin's Management Matrix (*10) (10, pp. 98-102). This is a test which measures a person's perception f his own managerial style in three action patterns: (A) working through others, (B) producing worthwhile results, and (C) generating usable ideas. SPS students were given the MMO at the beginning of the semester and at the end of the semester to determine whether or not their leadership styles changed during the semester's experience. It is given in modified form to freshmen who evaluate the leadership action patterns of all seniors.

A marked difference was found between the way seniors evaluated their own leadership patterns and the way the majority of their freshmen subordinates viewed their style. This difference held true for all seniors. In most cases, the error was in the direction of seniors overrating themselves on an action pattern. For a more complete discussion, see reference (8).

The Rehabilitation Administration Simulation

The successes with executive simulation and the in-basket exercise in municipal supervisory training led to simulation development as the major laboratory experience for the National Rehabilitation Administrative Training Program at the University of Oklahoma. The purpose of the project was to construct an administrative training experience which would encompass many phases of management training (7, pp. 17-19).

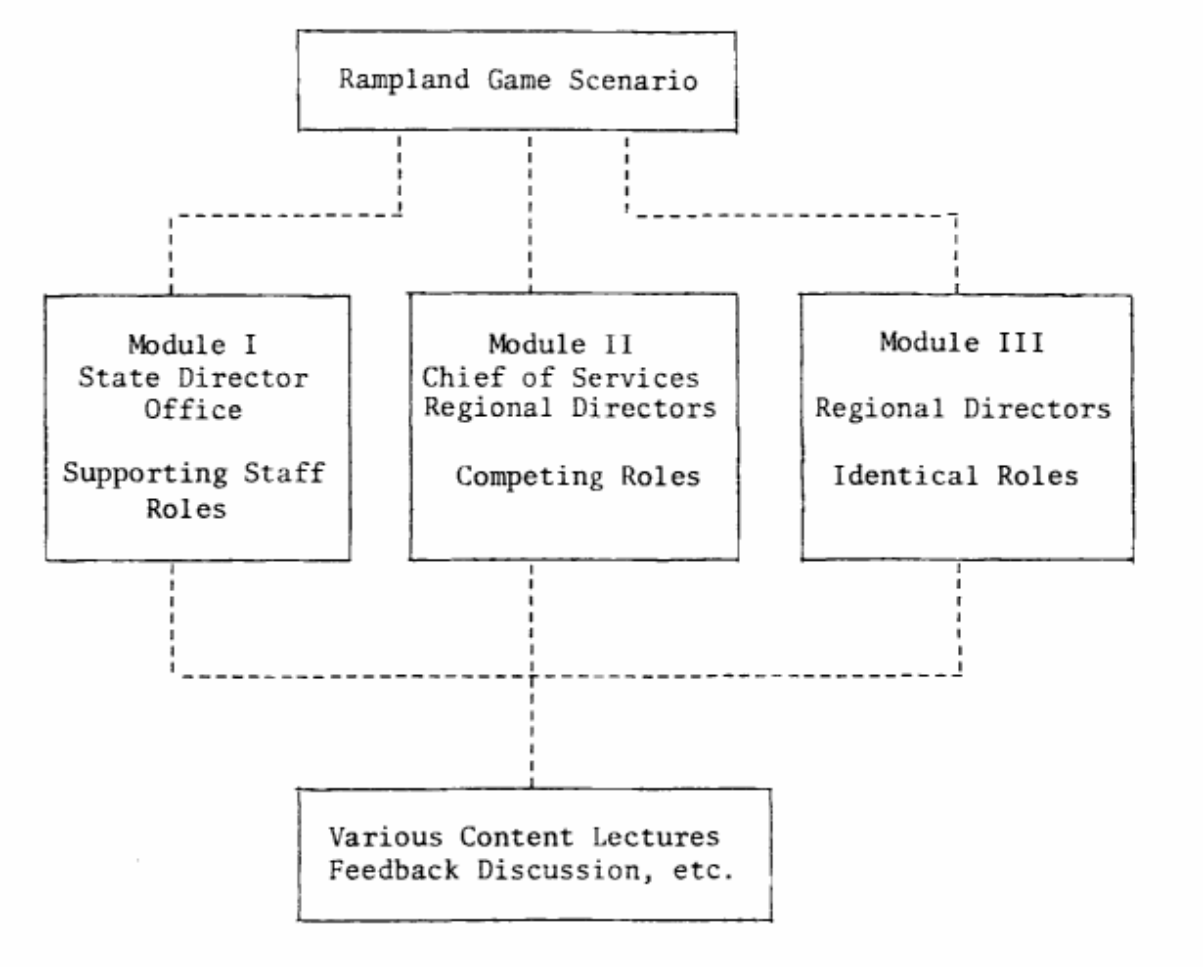
A planning model was developed for the Rehabilitation Administration Simulation (RAS) and was captioned the Rampland Game. It includes a demographic scenario, a map describing the area covered by the state and divided into RAS regional territories, a budget for the prior year, an organizational chart, a rehabilitation counseling case load and production by regions and units for the prior year. Also included is a profile of three of the regional units developed from research in previous RAS publications.

After several months of development, the central model was organized into a scenario plus three modules (See Figure 2). Module one consists of planning and goal setting performed by teams consisting of an hypothetical state rehabilitation administration director and an office staff, including assistant directors of staff services, client services, administrative services and program evaluation and development. The central exercise in module one of the Rampland Game is the projection of a yearly budget simultaneously with a group of planning premises, objectives and action plans for the year. Lectures on “management by objectives” and “program planning budgeting” are interspersed among the approximately two days of activities in the first module.

Module two includes the same participants but instead of acting as state director and the staff, they become the chief of services and the regional directors of Sections A, B, C, and D, reporting to the central staff. This means they lower their thinking in the organization hierarchy by one notch. Instead of using incidents for role descriptions (as was used in module one), each director of the regional areas is given the socioeconomic level of the region, some basic characteristics, expenditures of each supervisory unit, and descriptions of the severely disabled and their socioeconomic backgrounds.

The chief of services, on the other hand, is given a case service allocation and an expenditure pattern for each of the four regions. Instead of having groups in module two meet as the chief of services and the directors of regions A, B, C, and D, a different procedure is followed. All of the regional chiefs of services in the second module meet together and develop a role bias or perspective while all of the regional directors meet at their separate tables. This means that five teams develop the role perspective.

FIGURE 2


Rampland Game Scenario
Module I
State Director
Office
Supporting Staff
Roles
Module II
Chief of Services
Regional Directors
Competing Roles
Module III
Regional Directors
Identical Roles
Various Content Lectures
Feedback Discussion, etc.

Module two culminates with a development of objectives and action plans together with case closure production and budgeting forecasts for each of the regions. The most interesting thing about module two is that once the teams are brought together out of their role sessions into this planning session, each is given one of the budgets and corresponding production and action plans for a region of the state. Needless to say, moans and groans is develop when participants realize they must face the planning limitations developed by themselves or by a similar team in module one. Also there are problems of trade-offs of monies from one region to another when the dollar-and-cents budgeting cake must be sliced among the regions.

Module three of the Rampland Simulation is lowered another notch in the organizational hierarchy. The team members, given the role of regional directors, deal with problematic incidents involving supervisors, the chief of services and other administrators who interface with the regional director. Most of the incidents in this package are behavioral in nature, giving the participant an opportunity to develop a viable leadership style as he/she interfaces with superiors and subordinates as well as with outside interested parties.

In summary, the Rampland Simulation follows an hierarchical development of a totally hypothetical organization, beginning with a state director's office and culminating with a regional supervisor. Ample opportunity is provided for **in**struction and training in organizational goal and policy development, middle management interpolation and conflict resolution, together with first level supervisory development. Thus far reactions to the Rampland Simulation have been so very favorable that weekly sessions of the experience have been scheduled throughout the nation for the following year. However, statistical evaluation procedures as to behavioral changes and learning effects have not yet been performed.

Summary and Discussion

Figure 3 summarizes the manner in which each of the three instructional projects measured up on the learning grid.

Fundamentals of Supervision

The material covered in lecture form was less than most training programs--but seemed quite adequate for practical minded supervisors. EXPERIENCE lacked the realism however of a hierarchical situation. Group discussion assisted in drawing on the-job experiences. FEEDBACK was somewhat structured coming at the conclusion of the in-basket exercise. Lack of education and fear of academia caused participants to be highly sensitive

FIGURE 3

Project	Content	Experience	Feedback
Learning Grid Score In-Basket Fundamentals of Supervision--Oklahoma City	9 Lectures 15-20 minutes Interdispersed	5 Incidents In-basket exercise Group discussions and consensus on incidents	4 Quizzes on In-Basket Class discussion On-the-job applications
Learning Grid Score Two-Level Hierarchy Business Policy Course (College)	6 Assigned texts on leadership Classroom lecturettes interdispersed with questions Continuous visits with teams and answers to questions	9 Business game Supervision of freshmen subordinates	7 Discussion by policy leaders in class response by professor Weekly meetings with teams and leaders before and after MMO
Learning Grid Score Rehabilitation Administration Simulation	5 Lectures interdispersed with exercises	9 Budgeting exercise Goal setting exercise Hierarchial-role oriented incidents supporting, competing, identical, group roles	6 Feedback discussion by teams--and review by instructors Display of group answers Integrated Summary Lecture and Experience

to any criticism of their solutions. Dealing with a large number of incidents at one time caused some confusion and salient points were sometimes lost in the shuffle. Incidents were brought forth and discussed again at various times during lecturettes. The program suggestion for improvement should be smaller in-baskets interdispersed with lectures, each one with a functional theme. I would rate the In-Basket a score of 9-5-4 on the learning grid.

Two-Level Hierarchy Business Policy Game

The experience created by this exercise was the richest of the three projects. Seniors were able to reflect on themselves as fledging freshmen (their subordinates), they felt the burden of leadership because of the four-year age and experience differential, and they were forced to guide and coach business policy and strategy white writing about and discussing organizational behavior. The pre and post test on the MMO caused seniors to reflect on their own leadership styles.

The content assignments in this course left something to be desired. Few texts deal with policy and strategy within a behavioral context. Although seniors are presumed to have covered subject matter in both areas--the learning grid calls for bringing content and experience into immediate proximity. Although numerous hand-outs and lecturettes were utilized in order to deliver content at relevant times, coverage still remained inadequate. A new simulation game is being published with 150 pages of selected readings in an attempt to alleviate this problem (4).

FEEDBACK seemed to be adequate and of an extraordinary quality. Since seniors took their role of leader seriously, their questions and suggestions indicated strong involvement. Class periods were held one day per week in which seniors were required to summarize their problems and learning experiences. The instructor used student responses as an introduction to concepts and principles.

The instructor also met with teams constantly by moving from team to team during their decision-making sessions. The MMO elicited a great amount of interest regarding leadership styles.

Perhaps the most rewarding element of the course was the seriousness with which seniors considered business policy concepts and strategy. For the first time in their careers, seniors were forced to look at business policy from the viewpoint of one delegating policy guidelines with the full knowledge that marketing, production, and financial results received by their subordinates would depend on the wisdom of their policy guidelines.

The format of this project seems to be approaching the organic blending of the learning grid dimension depicted by the 9-9-9 instructor's style.

The Rehabilitation Administration Simulation

The Rampland Game provided very complex and integrated managerial experiences. In addition to the two-level hierarchy utilized in the policy course, participants were required to move through three levels of management throughout the week's activities. Although Rampland did not include a live subordinate interacting on-line, participants were required to utilize the goals, objectives, and budget established at the state office when they moved into regional management roles.

The chief difficulty of the experience is in the mechanics of administration. In the first two attempts at utilizing it, three instructors were required in order to clarify roles and keep activity moving. Instructions have been programmed in a more readable form in later versions.

CONTENT lectures usually precede each group activity. Feedback discussions in Rampland are utilized in a structured fashion at the end of each round of simulation (Role-play or budgeting exercise). These are initiated by having teams present their conclusions (budget, goals, etc.) on a flow chart and then generate discussion regarding these. A summary (integration) lecture and discussion was conducted on the last half day of the week's simulation.

The weakest element of the Rampland seems to be the CONTENT discussion. Once an experiential environment is turned on for practicing managers, they generally move toward a discussion of more and more specific daily problems rather than a conceptualization of long-run solutions. For this reason, lectures on MBO, PPB, and other traditional management concepts are not well received within the game context--even though exercises clearly call for these modes of operation. The question remains, do participants in a straight lecture mode accept and integrate more planning and budgeting concepts than the game participants? The Rampland Simulation receives a score of 5-9-6 on the scales of the "Management of Learning Grid."

REFERENCES

1. Blake, R. R., and J. S. Mouton. The Managerial Grid (Houston, Texas: Gulf Publishing Company, 1964).

2. Butler, John L., and J. Bernard Keys, "A Comparative Study of Simulation and Traditional Methods of Supervisory Training in Human Resource Development, Academy of Management Proceedings (Boston, Massachusetts: Academy of Management, 1973).

3. File, Q. W., and H. H. Remmers, "How Supervise?" The Psychological Corporation Test Catalog (New York: The Psychological Corporation, 1971).

4. Keys, J. Bernard, and Howard Leftwich. The Executive Simulation (Dubuque, Iowa: Kendall Hunt Publishing Company, 1977), 2nd Edition.

5. Keys, J. Bernard, and Howard Leftwich. The Executive Simulation (Oklahoma City, Oklahoma: Management Resource Associates, 1973).

6. Keys, J. Bernard, "The Management of Learning Grid," to be published in Academy of Management Review, July, 1977.

7. Keys, J. Bernard, "Simulation Games and Experiential Learning--Management Development for the Future," Survey of Business (Knoxville, Tennessee: University of Tennessee, January-February, 1976), pp. 17-19.

8. Keys, J. Bernard, and Chris Jones, "A Student's View of Leadership Training with a Two-Level Hierarchy, Two Course Simulation," ABSEL Proceedings, 1st National Conference (Norman, Oklahoma: University of Oklahoma, August 26-27, 1974), pp. 280-290.

9. Kirkpatrick, Donald L. Supervisory Inventory on Human Relations (Brookfield, Wisconsin: D. L. Kirkpatrick, 1965).

10. Marvin, Phillip. Management Goals Guidelines and Accountability (Homewood, Illinois: Dow Jones - Irwin, 1968).