

Second of Two Parts . . .

# Learning Theories and Training

## An Overview of Learning Theory Implications for the Training Director

Leslie E. This and Gordon L. Lippitt

As the training director explores learning theory, he finds the following points of view:

- a. There are individual exponents of a given theory who insist that their theory alone accounts for the way people learn.
- b. There are those who insist that we do not know what learning theory is and that learning theorists do not contribute to the real problems of training.
- c. There are those who will be frank in saying to a training director, "You are heavily on your own. Learning theory in its present state will not materially help you. Experiment. If it works and gets you

the results you want—don't worry about what learning theory lies behind your success."

It is encouraging to note that some social scientists are aware of this breach between research and practice:

"... Knowledge is not practice and practice is not knowledge. The improvement of one does not lead automatically to the improvement of the other. Each can work fruitfully for the advancement of the other but also, unfortunately, each can develop separately from the other and hence stunted in relation to the other."<sup>7</sup>

"It should be clear that the linking of social theory to social practice, as well as the development of a practice-

*Part 1 of "Learning Theories and Training" appeared in the April Training and Development Journal.*

7. Roethlisberger, Fritz J., in introduction to Clark, James V. "Education for the Use of Behavioral Science," Institute of Industrial Relations, University of California, Los Angeles, Calif., 1962, page 4.

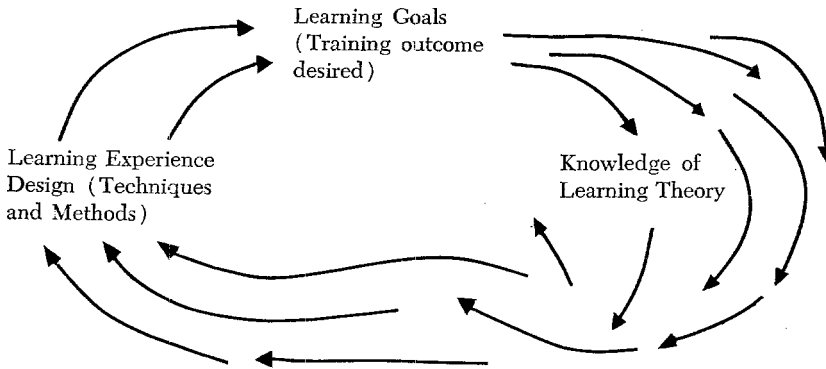
linked theory of the application of social science knowledge to practice, is an intellectual challenge of the first magnitude. But it is one that many social scientists—particularly those who rarely leave the university system—have neglected.”<sup>8</sup>

“Lewin is credited with remarking that one can bridge the gap between theory and reality only if one can tolerate ‘constant intense tension.’ Roethlisberger and his colleagues described these tensions all too well for

the person trying to improve the practice of administration when they wrote on “Training for a Multidimensional World”<sup>9</sup> which I have already recommended to anyone seriously planning to enter this field.”<sup>10</sup>

In relating learning theory to learning goals, learning theory corollaries, and the designed learning experience or training program, here is a model that is useful in visualizing their inter-relationship and their time sequence:

Figure 2



Two points are critical regarding the model in Figure 2:

- a. The model describes either a single training program or a series of training programs separated by a span of months or even years.
- b. The dashed lines indicate that the process is not a single revolution—but a continuous process. In the

life of a single training program, the learning goals may be modified—or the design, learning corollaries, or even the learning theory employed may undergo on-the-scene modification if they are not producing the desired learning goals. The model does not exist in a vacuum, nor is the choice of its com-

8. Clark, James V., *Op. Cit.*, page 89.

9. Roethlisberger, Fritz J., and others; “Training for Human Relations: An Interim Report,” Division of Research, Harvard Business School, Boston, Mass., 1954, Chapter 9.

10. Clark, James V., *Op. Cit.*, page 91.

ponent parts a matter of whim, preference, or intellectual selection. It is always related to the forces within the organization, the trainees, the

trainers, and the situation, as is indicated in Figure 3.

A simplified mathematical statement of this model is:

$$\text{Learning Goal(s)} = \frac{\text{Present state of the organization} + \text{present state of trainees} + \text{recognized need for change}}{\text{Appropriate learning theory} + \text{appropriate training design} + \text{supportive climate for changed trainee behavior}}$$

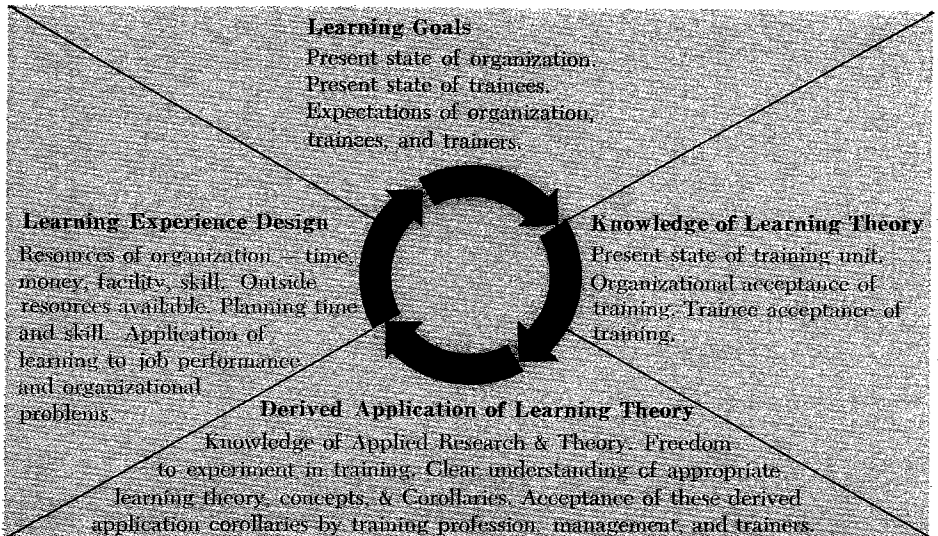
If we accept (1) that effective training always takes into account the major forces impinging upon it and (2) that trainees have insights into factors that facilitate their learning, then it follows that we should listen attentively to trainee observations. Some of the more frequently mentioned are:

- a. Participants almost always rate very high, as a training benefit, their interactions with each other. This seems particularly true in heterogeneous groups. They comment that they have become aware that

their problems are not peculiar; it has been helpful to learn about other programs; they have learned from each other; and they have become more perceptive and broadened in the understanding of their role. We have, in the past, looked upon this as a minor side benefit of heterogeneous training. We are now inclined to believe this may be one of the major benefits of such training.

- b. Participants always complain that they need time to internalize, digest, reflect, and to be left alone.

Figure 3



We usually answer by scheduling more night meetings. Perhaps we need to experiment with two hours of training and six hours of internalization.

- c. Participants like "bull sessions."
- d. Participants say they need more recreation to release some of their emotional and physical energy.
- e. The use of dyad conversations seem useful—even if these are forced. They seem to serve a helpful purpose of reaction, clarification, and feedback.
- f. Time for reading pertinent articles and books seems to have excellent payoff. Training directors generally feel that managers would not accept training time being used for reading purposes.
- g. Some limited experimentation seems to indicate that it is desirable to attempt to bring all participants up to a minimum level of knowledge before placing them in a training program. This can be accomplished by preliminary reading or programmed instruction.

### No Single Theory

We are inclined to think that by listening to the comments of participants as to what *they* believe enhances their learning, and designing training programs to meet these expressed needs, might have very excellent payoff in training programs even if the training director could not find support for the technique within existing learning theories. What we suspect is that there is no *single* learning theory that should be embraced by a training director or a training program.

This feeling seems to be supported as one surveys the current trends in training programs. These trends would seem to borrow from most of the

Schools of Learning Theory. To illustrate, the authors believe that the following trends can be identified:

1. A trend toward a focus on *improved performances* rather than on increased individual knowledge.
2. A trend to *train situations* rather than individuals.
3. A trend to see training as the way *management gets its job done* rather than a function of the training department.
4. A trend toward building up *in-house* capabilities rather than dependence on outside experts.
5. A trend toward insistence on *evaluation* of training rather than accepting it on faith.
6. A trend toward designing learning that will focus on *learning-how-to learn*.
7. A trend toward training that is *reality-based* as against training that is highly unrelated to the learners' life experience.
8. A trend toward training that has an *action-learning* base rather than based on one-way communication.
9. A trend toward training that provides *reinforcement* and followup experience for trainees rather than "graduating" them from a training program.
10. A trend to depend more on the learning to be *self-motivated by the learner* rather than imposed on the learner by the trainers.
11. A trend for training to be *goal-oriented* rather than vague assurance that it will be "good for you."
12. A trend toward greater *homogeneity* in the persons being trained.<sup>11</sup>

11. Lippitt, Gordon L. "Changing Trends in Organized Development," Talk before the Public Administration Society, University of Michigan.

### Fitting Specific Needs

There would appear to be different learning techniques and conditions that are applicable to different kinds of training and learning. The training programs within a work organization are not all aimed at the same kind of learning. Perhaps different learning theories apply according to the nature of the subject to be taught and learned, the nature of the organization, the nature of the trainees, and the available teaching resources. This would indicate that no single learning theory can be applied across-the-board to all learning activities.

We suggest the following format as one that would be useful to a training director:

*Step 1.* What is the learning outcome desired? This will indicate what is to be taught—orientation, problem solving, decision making, knowledge, memorization, changed attitude, changed behavior, manual skill, creativity, self-insight, lessened resistance to change, person-to-person relationships, group-to-group relationships, technical knowledge, communication, self-development, executive development, or understanding principles and theory.

*Step 2:* Based on what is to be taught, select the learning theory most applicable to that content; i.e., Behavioral Theory, Cognitive Theory, Functionalism, Mathematical Model, Psychiatric, Neurophysiological, or total man and environment.

*Step 3:* The basic learning theory should be utilized by examining the derived Corollary Theories and principles useful in effectively training toward the desired end. For example; knowing others better, knowing related programs better, reflection time, informal interaction, exercise, recreation, advance preparation, immediate reward, delayed reward, learning pla-

teau, practice-rest-practice, reading with recitation, meaningful material, "A-na" phenomena, immediate use, material known previously, important material, pleasant material, concept formation, concrete concept, part-whole versus whole-part, positive instances versus negative instances, general to specific, maturation task relatedness, fatigue factor, and motivation.

*Step 4:* These considerations would then suggest specific decisions on the following factors:

- a. The learning site—on-the-job; classroom-organizational premises; classroom-off organizational premises; university or other formal site, cultural island, or home.
- b. The grouping. (1) Related to size—one, dyad, trio, groups 5-8, groups 9-15, groups 16-30, and audience style—any number. (2) Related to relationships of participants—all male, all female, mixed sex; little experience, much experience, mixed experience; old, young, mixed age groups; known to each other, not known to each other; same organization—vertical, horizontal, diagonal; other organization—homogeneous, mixed; same educational level, mixed educational level; and same task or mixed tasks.
- c. The learning methods to be employed—lecture, panel, symposium, debate, laboratory, programmed instruction, experience, coaching, job progression, job rotation, job enlargement, apprenticeship, situational training, personal reading, correspondence, liberal arts, formal school, formal outside program, workshop, conference, institute, seminar, visitation, or discussion groups.
- d. The training aids to be used—movies, instantaneous replay movies, telephone—loudspeaker, TV,

- role play, exercises, in-basket, gaming, film strips, slides—transparent, tape recorder, blackboard, newsprint easel, flannel board, magnetic board, self-administered instruments, tests and quizzes, case studies—no printed discussion, case studies—printed discussion, case studies—incident process, experiments, models—mockups, and group-generated data.
- e. The type of resource persons or instructors—written material, experience, instrumentation, self, organizational technical expert, outside technical expert, organizational resource people, professors, industrial resource people, training department, supervisor, or peers.
  - f. How much attention needs to be paid to transfer of learning: direct transfer; live, simulated reality; principle to be applied; no direct application; known stimuli—opposite response; familiar to be used in unfamiliar way; or principle to be learned and applied.

### Change on the Job

As training directors, we strive very hard to establish response patterns that hopefully will be carried over and continued in the work situation. This is at the heart of one of the criticisms managers level at training programs—the behavior of participants back in the work situation too often seems relatively unchanged.

As one examines this phenomena, one is struck that most training programs in the conceptual areas of supervision and management lean very heavily upon Theory “Y” assumptions. We do not know of any programs that pointedly train toward Theory “X” assumptions. Conversely, organizations

still have a goodly amount of Theory “X” assumptions underlying both their operations and supervisory and management practices.<sup>12</sup>

This raises two questions:

1. In our zeal to get away from the mechanistic approach to organizational dynamics, we have underplayed the role of these factors in the total organization as they affect training outcomes. We have tended to train as if such realities did not exist and that the only dynamics that were operable were the human factors in the training. This has created a breach between the training office, the operating people, and management.
2. The S-R phenomenon not only operates within the training situation but is very much operable within the work situation. People react in the direction of the rewards they receive. The S-R patterns initiated in a training session have very little chance of survival when they come up against different S-R patterns of rewards in the work situation. For example, among the work situation S-R patterns rewarded are the following:
  - “Research paper production gets you promoted—not supervisory ability or a skill.”
  - “Promotions depend on who you know—not what you know.”
  - “I don’t give a damn how your people feel—we’ve got a job to do.”
  - “OK, you’ve been to a training program. Say something new.”
  - “Seniority is what really counts around this place.”

### Reward Patterns

If a S-R pattern, initiated in a training program, is to be maintained in

12. McGregor, Douglas. “The Human Side of Enterprise,” McGraw-Hill, 1960. Chap. 3 and 4, pp. 33-57 for detailed explanation.

the work situation, then it must be rewarded by the organization. If the pattern is in conflict with rewarded patterns, the newly-learned patterns do not have much chance to survive. We believe that this accounts for a great deal of supposedly poor results of training. The training is not in harmony with the reward patterns of the organization. As training directors, we would have much better success if we would train according to the pattern rewarded, and apparently desired by the organization.

The research into learning theory has indicated a need that has not been recognized fully by the training profession. We are amazed that a critically needed overview of the field of learning theory has not been written to assist the training director. We need an identification of the existing learning theories that appear to be best researched and validated, the statement and comparison of these theories in language that the training director can comprehend and understand, and suggested guidelines for ways in which the training director can utilize these learning theories to the enhancement of his training activities. We believe such a publication is long overdue and would be highly welcomed by almost all training directors. We believe it would add much to the professionalization of the training job. More importantly it would very well make our training programs more effective in meeting the needs of our organizations.

### **Helpful Guidelines**

Beyond the implications for training directors that this exploration into learning theory has suggested, there seems to be some guidelines from such an exploration that are useful to a manager:

1. The sophistication needed to un-

derstand and utilize the implications of learning theory have much to say about the kinds of qualifications and skills a training director should bring to the job. The naive assumption that the bestowal of title and salary makes one a training director is tragic. Similarly, the managerial assumption that an employee who has the knack of making cute speeches or who once taught elementary school is training director material is inadequate. We would even go further and suggest there are some questionable implications of taking an employee who never managed even a small subunit and entrusting him with the training of other managers.

2. We have already commented on why we believe much of our training is not effective. Operational and organizational climate must support the training received. In addition, managers need to be much more realistic and expect that very few entrenched S-R responses can be changed in a week's training program.

3. We need to relook at the anxiety about evaluation of training. We are not even sure how people learn and this creates real problems in trying to evaluate the effectiveness of our learning process efforts. We know people do learn but we are not sure why. When one looks at the tremendous number of complicated, tenuous, and conceptual ideas that are discussed within the span of one week in the average supervisory or management training program, it seems naive in the least to expect that very much by way of established new patterns of behavior could possibly emerge. The expectations of management are too high, and we as training directors have promised too much.

## Enchantment of Theory

We see no other trap. As we become concerned with learning theory, we must expect to find conflicting theories and conflicting practices within the profession. We must keep our focus on our objectives and not become seduced by enchantment with the theories.

"Theories . . . attempt to organize existing knowledge, they attempt to provide guiding threads or hypotheses toward new knowledge, and they may also furnish principles by which what is known can be used. This practical outcome is seldom central in the thinking of the constructor of theory, and it is not surprising, therefore, that the person seeking advice from the learning theorist often comes away disappointed.

"... It turns out, however, that many of the quarrels of the theorists are internal ones, not very important in relation to immediate practical problems; there are, in fact, a great many practically important experimental relationships upon which the theorists are in substantial agreement . . . If the theoretical differences are irreconcilable, and one position eventually wins out over the other, there will ultimately be an effect upon practice. But advice for practical people today need not wait for the resolution of these theoretical controversies."<sup>13</sup>

This, then, is the challenge to those of us desiring to meet the critical problem of developing effective training programs to meet the changing manpower needs of today's organizations.

## Bibliography

- Bass, Bernard M. and Vaughan, James A. "Psychology of Learning for Managers," Graduate School of Business, University of Pittsburgh.
- Berelson, Bernard and Steiner, Gary A. "Human Behavior — An Inventory of Scientific Findings," Harcourt, Brace, and World, Inc., 1964.
- Blake, Robert R., Mouton, Jane S., Barnes, Louis B., and Greiner, Larry E. "Breakthrough in Organization Development," *Harvard Business Review*, Vol. 42., Nov.-Dec. 1964, pages 133-155.
- Boudreaux, Edmond and Megginson, Leon C. "A New Concept in University Sponsored Executive Development Programs," *Training Directors Journal*, Vol. 18, Nov. 1964, pages 31-41.
- Bradford, Leland P., Gibb, J. R., and Benne, K. D. "T-Group Theory and Laboratory Method," John Wiley and Sons, 1964.
- Goldiamond, Israel. "Justified and Unjustified Alarm Over Behavioral Control," In: Milton, Ohmer. "Behavior Disorders: Perspectives and Trends," J. B. Lippincott, 1965, pages 237-262.
- Green, Edward J. "The Learning Process and Programmed Instruction," Holt, Rinehart, and Winston, Inc., 1962.
- Grose, Robert F. and Birney, Robert C. "Transfer of Learning," D. Van Nostrand Co., Inc., 1963.
- Guerin, Quintin W. "A Learning Theory Model," *Training Directors Journal*, Apr. 1965, pages 40-45.
- Harris, Theodore L., and Schwahn, Wilson E. "Selected Readings on the Learning Process," Oxford University Press, 1961.
- Hilgard, Ernest R. "Theories of Learning," Appleton, Century, Crofts, Inc., 1948.

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13. Hilgard, Ernest R. "Theories of Learning," Op. Cit., page 485.

- Marsh, Pierre J. "Selected Learning Theories: Their Implications for Job Training," Master's thesis submitted August 6, 1965, School of Business and Public Administration, George Washington University, Washington, D. C.
- Miller, Harry L. "Teaching and Learning in Adult Education," The MacMillan Co., 1964.
- Morton, Robert B., and Bass, Bernard M. "The Organizational Training Laboratory," *Training Directors Journal*, Oct. 1964, Vol. 18, pages 2-15. National Society for the Study of Education. Yearbook. 63d. ed. Pt. I.
- "Theories of Learning and Instruction," Hilgard, Ernest A. (edited by), University of Chicago Press, 1964.
- Rothschild, William E. "Practicing Managerial Skills," *Training Directors Journal*, Nov. 1964. Pages 23-30. Vol. 18.
- Skinner, B. F. "Pigeons in a Pelican," *The American Psychologist*, Vol. 15, No. 1, Jan. 1960. Pages 28-37.
- Weschler, I. R. and Schein, E. H. "Issues in Human Relations Training," (Sel. Reading Ser. 5) Memorial Issue. National Training Laboratories, 1962.
- Wight, A. R. "Translating Creativity Findings to Industrial Training Programs," *Human Relations Training News*. Summer 1964. Pages 5-7.

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