

Training Surveys Surveyed*

a comprehensive look at "who is doing what" in nonmanagerial training

Michael A. Raphael
and
Edwin E. Wagner

This article reports on an atypical survey. An endeavor was made to determine the extent of non-managerial training being conducted in industry and the methods of training used. After several surveys were located, it became apparent that an overview and compilation of these surveys might be useful to both practitioners and researchers.

This article is a result of those efforts. Instead of reporting the findings of each survey in order, the results have been grouped into three sections. The first includes those surveys that determined how much training is conducted in industrial organizations. The second section contains a summary of the methods and techniques that are being utilized. The final group is surveys that report on the amount of training program evaluation being conducted.

Extensiveness of Training

In a survey conducted by the Department of Labor in 1962 of 8,000 business establishments, representing more than 50 per cent of the working population, the proportion of firms with training programs was directly related to the size of the company. Training programs existed in 25 per cent of firms with 20-99 employees, 70 per cent of firms with 500-999 employees, 85 per cent of firms with 1,000-2,499 employees, and 96 per cent of the firms with over 5,000 employees (Frankel, 1969).

The National Industrial Conference Board (NICB) surveyed manufacturers in the United States (1964). Forty-five per cent of the respondents conducted formal training programs for nonsupervisory personnel. However, this number varied according to company size, with formal training conducted by 30 per cent of manufacturers employing 250-499 persons and by 83 per cent of

those employing 5,000 and more.

In a second survey, of non-manufacturing companies, the NICB (1965) reported that 59 per cent of the replying banking firms, 56 per cent of the retail organizations, 53 per cent of the gas and electric utilities, 43 per cent of the insurance companies, and 24 per cent of the wholesale trade respondents conducted formal training programs. The amount of formal training varies according to company size, with, for example, 31 per cent of the insurance companies employing fewer than 250 persons conducting formal programs, while 68 per cent of those insurance companies employing 1,000 or more conduct such training.

BNA Survey

In a survey of over 200 member industrial representatives, of which 60 per cent had more than 10,000 employees, the Bureau of National Affairs (BNA) ascertained that 75 per cent of the companies had combined formal and informal training programs, with only six per cent conducting only formal training (1969). This number of combined formal and informal training programs represents a substantial increase over the 1962 survey, which reported that approximately half of the respondents conducted combined programs.

Although the percentages vary somewhat from study to study, two conclusions can be drawn: a large amount of training is being conducted, and the greater the number of employees in a firm, the greater the probability that the firm will conduct formal training programs. Since training appears to be an important activity in industry, it is important to determine the methods that are being utilized.

Training Methods Used

Several surveys have been con-

*Based in part on a doctoral dissertation submitted to the Graduate Faculty of the University of Akron in partial fulfillment of the Ph.D. Degree

ducted to determine the training methods that are being utilized in industry. In attempting to digest the data from these surveys, comparisons are difficult because of differences among the kinds of questionnaires presented to the respondents. Often a questionnaire is devised that presents a list of training methods and respondents are asked to check the methods they employ. Other times respondents are asked to rate the method that is judged most effective, with no indication of the extent of its use. Sometimes respondents are given open-end statements and are requested to list the methods used.

Table 1 condenses the results of several published surveys. The methods are ranked in terms of those most widely used, unless otherwise noted. In order to include a standard group of methods, those listed by Bass and Vaughn (1966, p. 131) were selected. It can be seen that some surveys did not include all the methods. (Table 1 is on page 12.)

A survey by Raphael (1971) was made of the trade journals and training literature in an attempt to ascertain which training methods receive the most publicity in the literature. It was determined that television received the most publicity, followed by the lecture, tape recorders, film strips and slides, and programmed instruction.

Publicity vs. Use

Some interesting thoughts emerge when Table 1 is compared with the current publicity. When mentioned, job instruction training was utilized most often or judged most effective. The lecture is used very frequently and receives a great amount of publicity. Television, on the other hand, receives a large amount of publicity, but does not appear to have widespread utilization.

It can be concluded from Table 1 that the training methods actually being utilized do not always coincide with popular thoughts. For example, based on current

publicity, some training experts today might say that programmed instruction and television are the "hot" methods, but Table 1 does not warrant this conclusion. Perhaps these surveys are too old to reflect current trends, perhaps decisions concerning the selection of a training method are not based on survey results, or perhaps methods are selected based on what competitors utilize.

From the material presented, it can be seen that training is a major activity and that many methods are being utilized. Regardless of what training program is employed or what method is selected, an essential part of the total training activity is the evaluation of the method to determine its effectiveness.

Training Evaluation

While there are various approaches to training evaluation, Kirkpatrick (1959) proposed a four-step hierarchy in terms of significance. The first, or lowest, evaluation stage requires the trainees to express their reactions to the course or technique. The second step measures course content learning by some type of achievement measure, while the third state measures behaviour on the job. The top level in the evaluation hierarchy evaluates training methods in terms of economic results. It is in the context of this hierarchy that the following surveys are presented.

Analyzing the 75 replies to a survey of training directors (members of one ASTD chapter) concerning their attitude toward research on their training programs, Lippit, McCune, and Church (1964) ascertained that 91 per cent reported attempting to evaluate training. Improved knowledge or performance was the most-often stated purpose for evaluation, followed by new knowledge, trainee satisfaction, and changed behavior.

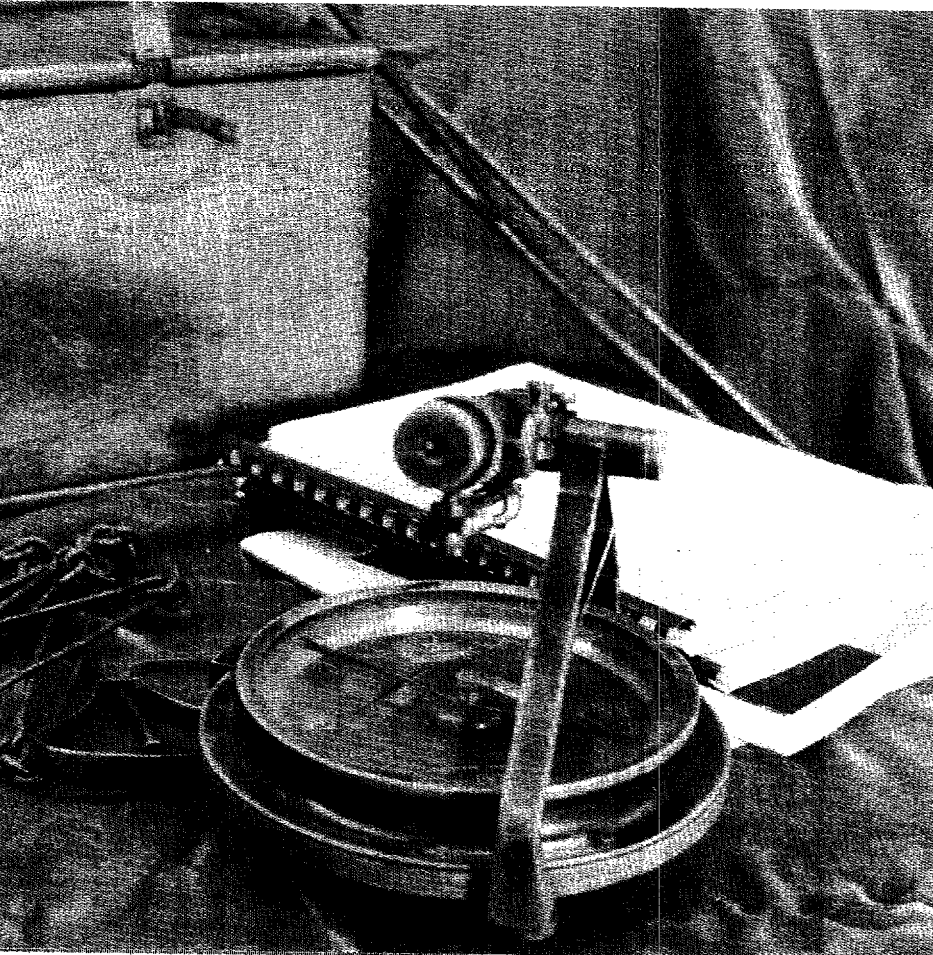


Table 1.
Rankings of Training Methods from Various Surveys

TRAINING METHOD	Utgaard & Dawis		NICB 1964		Ins.	Bank	NICB 1965		Retail	BNA	Walker	Ivan- cevic & Donnelly
	a	b	1964	1965			Gas & Elec.					
Job Instruction	1	1	NM	NM	NM	NM	NM	NM	1 ^e	1 ^e	NM	NM ^e
Apprentice	3	6.5	8	NM	NM	NM	NM	NM	NM	NM	2	NM
Internship & Assistantship	11	11	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
Job Rotation	4	3	5	5.5	5.5	2	5.5	3	5	5	NM	NM
Junior Board	18	18	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
Coaching	5	6.5	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
Vestibule	17	14.5	NM	NM	NM	NM	NM	NM	12	12	NM	NM
Lecture	6	5	2 ^d	1 ^d	2 ^d	2 ^d	2 ^d	1 ^d	9	9	7	4
Special Study	7	4	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
Film	9	8.5	1	2	3	3	1	2	4	4	9	3
Television	16	14.5	11	10	10	10	10	10	10	10	11	6
Conference on Discussion	2	2	4	3	4	4	4	4	2	2	4	2
Case Study	8	10	9	7	9	9	9	9	10	10	NM	5
Simulation	12	12	NM	NM	NM	NM	NM	NM	NM	NM	6	NM
Programmed Instruction	10	3.5	6.5	9	6	6	8	5.5	7	7	3	NM
Laboratory Training	15	16.5	NM	NM	NM	NM	NM	NM	NM	NM	5	NM
Programmed Group Exercise	13.5	16.2	NM	NM	NM	NM	NM	NM	NM	NM	NM	1
Tape Recorder	NM ^c	NM	6.5	5.5	7	7	5.5	7	11	11	10	NM
Film Strip & Slide	NM	NM	3	4	5	5	3	5.5	3	3	8	NM

a = Manufacturing firms
b = Nonmanufacturing firms
c = Not mentioned
d = Classroom
e = Methods rated in terms of judged effectiveness, not amount used

The most common evaluation method was trainee reaction questionnaires, indicated by 40 per cent of the respondents, with interviews and supervisor reports also frequently employed. Success on this job was measured by 11 per cent of the respondents while one per cent used follow-up tests. Only seven per cent of the training directors indicated a desire to continue using their present evaluation system. The most frequently noted area of needed research was to determine the most effective training program type.

Evaluation of training was conducted by 70 per cent of the companies responding to the Bureau of National Affairs survey (1969); approximately half of these accomplished evaluation by noting job performance. The remaining evaluations involved the opinions and critiques of the supervisor. Of those conducting training evaluation, 33 per cent noted deficiencies in their training, whereas 50 per cent of the companies not performing evaluation reported training deficiencies. Thus, even though the respondents have opinions about the effectiveness of training methods, many are dissatisfied with their current efforts.

Effectiveness:

"Poor" or "Average"

In rating the effectiveness of their training endeavors, 51 per cent of the 146 companies responding to a survey by Hannon (1968) felt their programs were poor or average, while only 36 per cent felt that they were doing good training, and 9 per cent estimated their activities as excellent.

Although dealing primarily with the evaluation of human relations training programs, Catalanello and Kirkpatrick (1968) determined from 110 survey returns that 77 per cent of the companies

asked trainee reaction, 51 per cent evaluated the learning of training program content, 51 per cent measured on-the-job behavior, and 45 per cent evaluated tangible economic results. In a second questionnaire to those conducting evaluations by the latter three methods, 41 per cent of the 47 respondents indicated that on-the-job behavior was measured most often by trainee or supervisor interviews.

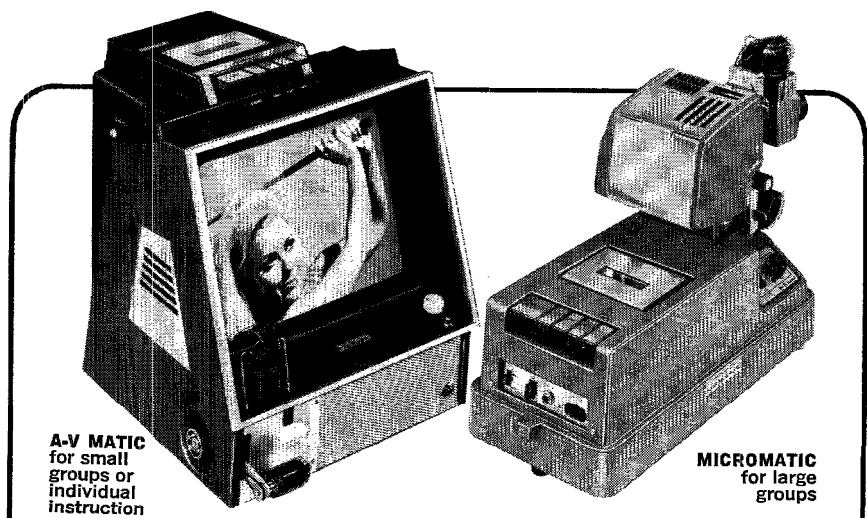
Although the surveys cited differed in terms of their specific goals, it seems clear that while training efforts are being evaluated occasionally, significant discontent exists. In terms of the evaluation hierarchy discussed earlier, it appears that the emphasis in training evaluation is centered on the lower half of the hierarchy, name-

ly the reaction and learning stages. This trend should be reversed, with the emphasis placed on the upper end of the hierarchy. Ideally, this total hierarchy should be investigated, but minimum evaluation should include on-the-job behavior and economic results.

Conclusion

In reviewing the survey results it is apparent that a large amount of training is conducted with a wide variety of methods being utilized. Often it is difficult to determine exactly which methods are being used because many are used in combination.

The key trend emanating from these surveys emerges from the evaluation area. It is obvious that a great deal of dissatisfaction exists among those responsible for



SIGHT AND SOUND to help you teach

The ease of cassette tape automatically synchronized with filmstrip ... the brilliance and clarity of DuKane fully-automatic projection ... unite to bring you two of the most versatile, easy-to-operate teaching tools ever developed. Over 12,000 teaching materials available for use with this equipment.

SEND FOR FREE LITERATURE
and your copy of the "Directory of 12,000 Programs."

DuKANE CORPORATION
AUDIO-VISUAL DIVISION
Dept. TDJ-122, St. Charles, Illinois 60174

Circle No. 170 on Reader Service Card

training. Program effectiveness can only be determined by well-designed evaluations, but from the studies reviewed, evaluation receives the least amount of training effort.

Ultimately, if training effectiveness remains unknown, the resulting efforts may lead to losses in terms of trainee performance and satisfaction and organizational, financial, and administrative effectiveness.

More than a decade ago, in one of the only standard training texts, McGehee and Thayer (1961, p. 23) stated: "We cannot rely on the opinions of experts, the enthusiasm of our trainees, the acceptance of top management, and logic alone to answer these questions. Empirical research — decades of research — is necessary." Similar viewpoints have been subsequently expressed by Tiffin and McCormick (1965) and Campbell, Dunnette, Lawler, and Weick (1970) and still remain true today. This review only serves to confirm the previously expressed need for further research.

References

- Bass, B.M., and J.A. Vaughn, *Training in Industry: The Management of Learning*. Belmont, California: Wadsworth Publishing, 1966.
- Bureau of National Affairs, *Training Employees*. Personnel Policies Froum Survey Number 88. Washington: Bureau of National Affairs, November, 1969.
- Campbell, J.P., M.D. Dunnette, E.E. Lawler, III, and K.E. Weick, Jr., *Managerial Behavior, Performance and Effectiveness*. New York: McGraw-Hill, 1970.
- Catalanello, R.F., and D.L. Kirkpatrick, "Evaluating Training Programs — the State of the Art," *Training and Development Journal*, 1968, 22(5), 2-9.
- Frankel, H., "On-the-Job Training — a Permanent Institution," *Training and Development Journal*, 1969, 23(2), 28-32.
- Hannon, J.W., "How Companies Look at Training," *Training and Development Journal*, 1968, 22(1), 32-34.
- Ivancevich, H.M., and J.H. Donnelly, "Steps Toward Professionalization of Training Directors," *Personnel Journal*, 1966, 45, 662-667, 695.
- Kirkpatrick, D.L., "Techniques for Evaluating Training Programs," *Journal of the American Society of Training Directors*, 1959, 13, 3-9, 21-26.
- Lippitt, G.I., S.D. McCune, and L.D. Church, "Attitudes of Training Directors Toward the Application of Research to Training Programs." *Training Directors Journal*, 1964, 18(3), 13-20.
- McGehee, W., and P.W. Thayer, *Training in Business and Industry*, New York: John Wiley, 1961.
- National Industrial Conference Board, Division of Personnel Administration. *Personnel Practices in Factory and Offices: Manufacturing*. Personnel Policy Study No. 194. New York: National Industrial Conference Board, 1964.
- National Industrial Conference Board, Division of Personnel Administration. *Office Personnel Practices: Nonmanufacturing*. Personnel Policy Study No. 197. New York: National Industrial Conference Board, 1965.
- Raphael, M.A., "The Effects of printed audio, and TV presentations on the learning of three industrially related tasks: an investigation of the cue summation principle," Unpublished doctoral dissertation, University of Akron, 1971.
- Tiffin, J. and E.J. McCormick, *Industrial Psychology*. (5th Ed.) Englewood Cliffs, N.J.: Prentice-Hall, 1965.
- Utgaard, S.B., and R.V. Dawis, "The Most Frequently-used Training Techniques," *Training and Development Journal*, 1970, 24(2), 40-43.
- Walker, R.W., "An Evaluation of Training Methods and their Characteristics," *Human Factors*, 1965, 7, 347-354.

Michael A. Raphael is associate scientist-training research for the Life Insurance Agency Management Assn., Hartford, Conn., where he is in charge of designing and implementing training research studies. Prior to his current position he was a graduate assistant at the University of Akron, Ohio, where he received his Ph.D. in industrial psychology. His research interests center around applied learning, training and evaluation.

Edwin E. Wagner is a professor of psychology, University of Akron, Ohio. He is a diplomate in Counseling Psychology, American Board of Examiners in Professional Psychology. Ph.D., Temple University, Philadelphia, Pa.

**Tell advertisers you
saw it in the ASTD**

**training^{and}
development
journal**

**Thanks to you
it's working**



The United Way