

Problem-Solving Discussion Skills

Report from Westinghouse on Xerox Training Package

James R. Klein

Instituting an effective, large scale Management Training Program after a six-year period of no training can prove to be quite a challenge.

This challenge faced the East Pittsburgh Divisions of the Westinghouse Electric Corporation in late 1966. A five-year plan of revitalization coupled with an ambitious expansion program had begun in early 1965. Business was growing with a large backlog of orders developing rapidly. Employment was rising and the need for additional, well-trained supervisors was evident.

Size and geography added to the problems of developing adequate training programs to satisfy our needs.

The East Pittsburgh Divisions situated in the Turtle Creek Valley, East of Pittsburgh, Pennsylvania, is a sprawling manufacturing complex of 225 acres with additional feeder plants in four locations within a twenty-mile radius. A separate Division located in Trafford, Pa., approximately seven miles away, is also a part of the complex. The three Divisions that comprise the East Pittsburgh Divisions are separate profit center operations with their own general management. Each Division determines its participation in training programs based on their particular need situation.

The East Pittsburgh Divisions of

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Westinghouse is the oldest and largest location in the Corporation. Established in 1894, it quickly grew into one of the largest electrical equipment manufacturers in the world. Originally the headquarters location for Westinghouse with an extremely broad product line ranging from radios to generators it now specializes in generating and control equipment. Management training has at times been extensive and highly formalized with large staffs of professional trainers but during periods of economic reversals, both staff and programs were reduced in size and scope. Such a situation faced the Divisions in 1966 when the need for highly-trained managers occurred after a deemphasized period of training.

The responsibility for management training and professional development is centralized with authority cutting across divisional lines.

The Communications and Training Department is a staff operation reporting to the Manager of Industrial Relations with a Division-wide charter for internal communications, public relations and training at all levels. The entire twelve thousand employees and eight hundred members of management constitute the potential training participation.

The job facing the Communications and Training Department was to provide effective programs in both broad general management instruction and "pin point" training to quickly satisfy pressing management problems. This job had to be accomplished quickly with minimum cost, limited staff and within the framework of widely-separated work areas and large numbers of potential participants.

Being able to start from scratch has great advantages. Not being tied into existing programs or hamstrung by large quantities of "available" materials makes it possible to select the

right course and the right materials for the job. This is exactly what we feel we were able to accomplish.

Our biggest problem was identifying needs. Not just the obvious needs in general management areas, but the less apparent and much more difficult to define needs. We knew that human relations and communications problems along with motivational factors were beginning to crop up and had the potential of causing serious economic difficulties in the near future. A complex, unionized plant such as ours needs a manager, highly skilled in all areas of problem solving with heavy emphasis on accurate information and human relations.

Problem-Solving Course

The training course that has been of great value to us is "Problem-Solving Discussion Skills" developed by the Xerox Corporation.

We needed a course that would equip managers with problem discussion skills that would allow them to obtain complete, accurate information from subordinates without unnecessarily agitating them. Defensive attitudes and the temptation to tell a supervisor what he wanted to hear, coupled with a tendency on the part of supervision to "Fly by the seat of their pants" in making quick decisions were situations we had to overcome.

"Problem-Solving Discussion Skills" was introduced to the East Pittsburgh Divisions late in 1966 by the Xerox Educational Division as part of a validation study agreed to by the Westinghouse Electric Corporation to test the program's effectiveness.

The validation study involved fifty managers. Twenty-five received the training and the other carefully-matched group served as a control. A role play was conducted prior to the training. I played the subordinate role

with each of the twenty-five managers selected as participants. I was careful to respond accurately when asked a direct question, but I did not volunteer any information. I also readily agreed to any solution advanced by the manager. My concurrence with any solution ended the role play in every situation, as the manager automatically assumed that if we both agreed, it must be the correct answer. Admittedly, the results were not completely valid, since in real life situation, the supervisor would have a background of information and a knowledge of his subordinate unavailable to him in this training situation. The one fact that stood out very clearly, however, was that the average supervisor just doesn't have the discussion skills needed to solve problems in a modern industrial setting.

Self Administration

The validation study continued with five groups of five supervisors being trained at separate locations simultaneously. The introductory material had been presented to the entire group and the balance of the training was administered in each group by a different participant each day. This aspect of self-administration was a telling point, since it permitted a small training staff to quickly and effectively meet a rather extensive need.

The immediate results of this study indicated a very favorable trend for the group that had taken the training. A role play was conducted following the training and like the pre-training role play, it too was tape recorded. A gain of 53 points was achieved, but most importantly, we now had twenty-five supervisors firmly convinced that the training had worked, and that they were truly more effective on the job. This attitude was backed up by a series of questionnaires and personal

interviews. The only unfavorable comment in the whole program from any supervisor was that five is too many in a group. Three or four, they felt would give each participant more time to actually practice the skills.

Evaluation

A retention study was conducted five months later and tests proved that they had retained 87% of the PSDS material. Even more important, they were using the skills. I received comments like, "It saves me time and anything that saves me time, I use." One supervisor said he enjoyed his work more, since he wasn't constantly badgering his employees for information that he felt they were withholding.

The evaluation of the program convinced us to incorporate it in our total training package. Since the initial validation study was completed, 170 managers have completed the "Problem Solving Discussion Skills" course and an additional 125 have been scheduled for participation in 1968. Eventually we hope to include all 800 managers at the East Pittsburgh Divisions and all newly appointed supervisors.

"Problem Solving Discussion Skills" presents managers with a series of discussion skills for use in their relations with subordinates. It consists of (1) Learning how to conduct a discussion; (2) Obtaining information from the subordinate; (3) Responding to the information given by the subordinate; (4) Verifying and understanding this information; (5) Transmitting additional information back to the subordinate; and (6) Tailoring the conversation to fit the needs of both the manager and the subordinate.

In actual practice the manager is exposed to a multi-media approach of concept development which utilizes programmed instruction material, tape recorded cases to which he must re-

spond and role play situations that require his constant attention. The manager is totally involved.

Course Introduction

The introductory portion of the course is presented approximately one week prior to the group training session. At this time, I explain the program, its objectives and basic concepts. I point out that it is a newly-developed course, that is receiving a great deal of attention in the training field. I explain Westinghouse participation and present the findings of our validation study. All of this is done to establish a rapport with the group and to impress them with the amount of study and the thoroughness of the analysis used to select the program. I feel that these steps are vital, since the course is basically self-administered and requires a high level of motivation on the part of the participants to be most effective.

The Introductory Tape provided by Xerox is then played, usually with an aside comment like, "Listen to this guy, he's a real dandy." The first speaker on the tape is the horrible example and the managers, recognizing this, immediately identify with the expressed objectives of the training. The Introductory Tape utilizes a series of realistic situations that illustrate the folly of trying to solve problems with inaccurate or insufficient information. It also shows rather clearly how asking the right questions in the same situations produces important information that was not even mentioned in the other cases.

The programmed instruction is introduced next and I caution them that it will take from ten to twelve hours to complete all sections. Again I take the time to discuss the construction of programmed material, its historical development and present applications in

universities, schools and industry. Since the manager must complete this material on his own time under our operation of the course, it is of utmost importance that his interest be raised to a high level.

It may seem that a lot of time is spent in conversation not directly relevant to the course. I firmly believe, however, that the introductory session has a great impact on the effectiveness of the total program. It is difficult to "teach" managers but it is quite easy to accomplish the same objectives if managers are participating willingly in a learning experience. Getting participants ready to learn is an extremely important part of "Problem Solving Discussion Skills."

Principles of Problem Solving

Next, participants work on the Programmed Book which explains the principles definitions and procedures needed by management to conduct effective problem-solving discussions with a subordinate. The material requires a response to each question which is immediately reinforced before continuing to the next item. Participants occasionally complain about the repetition but their complaints usually disappear by the time the entire course is completed and they are able to evaluate the need for the repetition.

The Xerox instructions advocate the use of a test to determine if the manager has learned the skills. The test is to be announced prior to working with the programmed material and is referred to in the Introductory Tape. We do not use the test since its only purpose in our opinion, is to motivate the participants to complete the material. We would rather employ other means to provide motivation. The test material is provided, however, if the manager would like to test his own

comprehension, on his own time.

Group Sessions

The last part of the course consists of three Group Training Sessions, each of which is divided into two parts: (1) A Program Tape consisting of recorded problem-solving discussions with participants responding aloud to the recorded voices of subordinates just as they would in handling actual on-the-job problems. (2) Role Plays, in which participants take turns playing the part of a superior, a subordinate and an observer who critiques the performance of the other two.

The first Group Training Session occurs approximately one week after the introduction of the program. A small conference or training room is used, with only a table, three chairs and a tape recorder being necessary. Care is taken to restrict all telephone messages and other interruptions to a minimum. The participants may break for coffee whenever they wish. The length of time spent in any Group Training Session is determined by the skill of the participants in the Role Play section. The Program tape will take one hour to complete and the Role Plays usually take two to three hours depending on the participants' ability to obtain information and arrive at satisfactory conclusions.

Case Histories

Actual case histories are used in both the Program tape and in the series of episodes designed for role-play use. Xerox, apparently spent a good deal of time and effort to authenticate each situation. Many of our participants remarked on the similarity to their every-day kind of problems.

Managers often commented that there was nothing really new in the skills being learned and in a sense they were right. I never billed the training

as being new and different, only as being effective. Every successful manager uses some form of problem solving, even though many are not even aware of it. Problem-Solving Discussion Skills contains nothing radically new, but it does take the best approach in the field, logically arranges an effective sequence of questions and then provides what I consider to be one of the most dynamic training programs to firmly establish these skills in the minds of the participants. The strength of the program comes as much from the means of presentation as it does from the content.

The Program Tape gives each participant a chance to practice skills learned in the programmed material. A different participant each day serves as administrator and each member of the group is also assigned a participant number. The tape is turned on and two types of situations are presented. The tape will ask either a specific question or will describe a setting that requires an answer in the actual words that would be best to use. Each time, a signal on the tape instructs the administrator to shut off the recorder. He then waits a few seconds to give the participants time to formulate an answer mentally and then flips a simple number spinner to select one of the group to answer. The important point is that each participant must think of the answer, since only chance determines his selection. He may be called upon three or four times in a row or never and not wishing to appear unknowledgeable, he thinks about each question. This kind of total involvement is one of the chief strengths of the program.

It is quite interesting to watch the group during this phase of the training. Their eyes focus intently on the tape as the case study unfolds and all shift as one to the plastic spinner and

then again to the person "in the barrel" as they put it. The response is made and everyone shifts attention back to the tape recorder. The tape provides immediate reinforcement by suggesting a way the question could have been handled. The slightly superior look on the face of the participant just backed up by the tape attests to the effectiveness of this type of training. Even in cases where I told them they would be playing this game of instructional ping-pong, they would find themselves reacting just as described.

Problem Solving Sequence

The Role Play portion utilizes actual case histories and teaches a logical pattern to solve them through what Xerox calls the Problem-Solving sequence. It consists of seven steps: (1) The Opening, where the problem is made known to both the superior and the subordinate; (2) Analyzing the situation by knowing the symptoms; (3) Defining the precise nature of the problem to encourage the subordinate and then having him present relevant information and ideas; (4) Starting the restrictions to solving the problem; (5) Seeking a solution from the alternatives that have been given; (6) Selecting one solution after all alternatives have been considered; (7) Closing the problem with a self-critique by both the manager and his subordinate.

Reactions to Role Play

Each manager plays the superior role, once each session and has the opportunity to practice his problem-solving skills in as near realistic a situation as possible in a training program. Our management expressed some apprehension about role play in general and their participation in it. The first Training Session is always a bit longer

and rougher as such feelings are overcome. It always amazes the participants when they find themselves adjusting to the roles and submerging their identities in the role play situations. Even the one supervisor who told me it was a stupid technique backed off his original stand at the end of the training and admitted that it might have some value after all. He went on to say that it would be effective with some supervisors. It is quite gratifying for a training man to see the attitude change that occurs during the Training sessions. Even those who approach the sessions with less than joy, end up giving favorable responses to the questionnaire at the end of the program.

Each training kit is complete and well designed, with both function and appearance in mind. The trainees are usually impressed with the kit and this helps in the motivational stage of the training. A blank tape is included and can be used at the end of the final session to record an additional role play, with the training coordinator playing the part of the subordinate. The tape can then be graded with a key provided by Xerox and returned to the participant as a permanent record of his performance.

Evaluating a training program is difficult in any situation and when it includes attitude changes as well as skill acquirement it becomes increasingly complex.

We have approached the problem with questionnaires to be completed by both the participant and his immediate supervisor and by personal interviews of all concerned. I have yet to receive my first adverse comment on the program. The real indication of effectiveness has been the request of many managers to include their subordinates in future training.

