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MANUFACTURING PLANTS' USE OF COLLEGE-BASED TRAINING FOR FIRST-LINE SUPERVISORS: A HISTORICAL CASE STUDY USING SURVEY METHODS

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ABSTRACT

MANUFACTURING PLANTS' USE OF COLLEGE-BASED TRAINING
FOR FIRST-LINE SUPERVISORS:
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Training in industrial companies accounts for about 20% of all adult learners in the United States. College-based training for industry's managers has been proposed by some adult educators and higher education administrators as one means of developing an adult clientele to compensate for a dwindling pool of potential traditional-age enrollees forecast for the 1980's. The purpose of this study is to examine the viability of college-based training programs and to determine the organizational conditions necessary for program success if such programs are viable.

The research method used is a case study of a college-based program and the 250 manufacturing plants who use the program during 1978-79. The study uses program analysis techniques to frame the research questions.

Data was gathered from several sources using a variety of research methods: (1) interviews of the university's administrators, (2) mailed survey questionnaires to managers in the plants and past participant supervisors, and (3) document research.

The study's findings suggest college-based training is a viable adult education program, although college administrators may look to it for financial, rather than enrollment, benefits. The study's findings also suggest the university sponsors the program primarily for the financial contribution it makes despite the clear conflict seen between the program's objectives and the school's liberal arts mission. The administrative autonomy given the program seems to have contributed to its ability to survive.

The plants used the program as one component of the overall training supervisors received. There was virtually no match between plant respondents' perceptions of objectives and program outcomes, but still they gave the program a high comparative rating and indicated their intention to use it in the future. This apparent contradiction may be explained by several factors: (1) users thought the program accomplished some objectives well, even if not their preferred objectives; (2) users allowed themselves none of the other alternatives for improving supervisory performance suggested in the literature; and (3) supervisors learned their jobs primarily through informal means achieving an adequate level of performance. Specialization in staffing the training function resulted in more selective use of the program and more formal program evaluation.

To Carol and Benjamin Frederick, our son

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CHAPTER I

DEFINITION OF THE PROBLEM

Non-degree training and education of business firms' employees has become a significant proportion of all adult learning activity in the United States. Additionally, for reasons which are not thoroughly documented, these firms contract with outside sources for much of the employees' training (Lusterman, 1977).

At the same time, institutions of higher education, especially smaller colleges and universities, are looking for ways to attract adult learners in order to compensate for their dwindling pool of traditional-age students. Unless they find new fields of legitimate revenue-producing activity, hundreds of colleges and universities are expected to close in the 1980's (Scully, 1980).

During the 1970's many colleges and universities ventured for the first time into adult programming. A large portion of these established programs of business managers training (Glenny, 1976). Yet, to date, there are virtually no research studies designed to determine how business firms integrate college-based training programs with the other internal and external training they use. In fact, there are few studies which describe the structures and objectives of business firms' training function. There are only a few research studies which examine the structure, process, and program content of college-based management training (Powell, 1962; Andrews, 1966;

Pearse, 1974). Consequently there is little research data upon which to base decisions about the use of such programs by college and universities and by industrial plants.

Purpose and Approach of the Research

The purpose of this research is to address the questions of whether there is a basis for college-based training for business managers in private college and universities. Its secondary purpose is to describe the conditions under which such programs are viable. Viability, in this case, is operationally defined as program survival and continued use by the consumers, the business firms who sponsor training participants.

The research approach used is to identify a college-based management program which is successful according to this criterion, the "Worthingham Management Development Program (WMDP)," and then to examine variables which may account for, or partially determine, this success. Variables pertaining to (1) the manufacturing plants who send and pay the fees for participant-supervisors, (2) to the participants, themselves, and (3) to the university which provides the program are examined. Based on the result of this research, statements are made about the conditions which influence such programs' viability and thereby form the basis for such programs.

Using a program evaluation framework drawn from public policy analysis literature, the study begins by describing the logically most direct determinants of success, direct and intended program outcomes. It also describes indirect or

unintend program outcomes, such as the changes which have resulted in the organizations involved in the program and effects of program participation on participants' other learning. Finally, the study describes the procedural, structural, and situational variables which may account for direct or indirect outcomes and, therefore, must be replicated in some way in order to establish the basis for similar programs' successes in other settings.

The study describes the structures, procedures, and rationales by which over one thousand American business firms have used this program over the last twenty-eight years. It describes the university's reasons for establishing the program, the program's historical development, its policies regarding the program, and its administrators' perceptions of the program's outcomes.

The study focuses on variables which influence program results for (1) a small mid-western, independent liberal arts university and its management training program for first-line supervisors, (2) 250 manufacturing plants which have used the program, and (3) a sample of first-line supervisors who have participated in the management training program. The university is called "Worthingham University" (a pseudonym) or "the university," and the program is referred to as the "Worthingham Management Development Program" or "WMDP." The manufacturing plants are consistently referred to as "plants,"

and the supervisors who have been students in the program are called "participant-supervisors."

CHAPTER II

THE REVIEW OF THE LITERATURE

The review of the literature examines literature from five areas: (a) training in industry, (b) the supervisor's position, (c) higher adult education as a solution to current problems in higher education, (d) policy issues in adult education, and (e) human capital investment.

The literature review will provide a fuller description of the nature of the factors involved in determining the viability of college-based management training programs. And, in addition to more fully developing this policy question, it will provide the basis for the specific questions to be posed in collecting data for this study.

Training in Industry

Reasons Industry Supports Training

Business managers and executives have a fundamental, non-philanthropic interest in their employees' learning. Education and training in industry is not a new phenomenon. Branscomb and Gilmore (1975) note, for example, that as early as 1913, a group of large corporations formed the National Association of Corporation Schools (NACS). This organization's early members--AT&T, Burroughs Adding Machine, Cadillac Motor Car, Carnegie Steel, Commonwealth Edison, and American Locomotive--established their schools primarily to provide

immigrant workers with basic education (p. 222). Corporate educational activities have increased and diversified since then, but the general purpose of industrial education and training is to help firms adapt their human resources in response to changes in the demands made on their organizations (French, 1978, p. 349; Branscomb and Gilmore, 1975).

Demands take several specific forms. Advances in science and technology change jobs' content, increase the level of knowledge required to perform given jobs, and lead to continually greater specialization and fragmentation of jobs. Being a generalist is harder, and changing jobs more often requires retraining. As technical tasks become more specialized and fragmented, the need for managers who can integrate the parts become greater. Labor organization, a second factor, often precludes replacement as a means to meet new skill needs because union members demand greater job security; this creates a need for retraining, rather than replacing workers, which is reinforced by the fact that greater media visibility makes it locally less tenable to lay off workers. Greater educational attainment and shifting social attitudes among workers combine to make old autocratic management styles ineffective, or even dangerous. And, finally, government initiatives to increase employment opportunity to previously excluded minorities and women, introduce still more expectations managers have not encountered before (Branscomb and Gilmore, 1975, p. 222; French, 1978, pp. 342-344, 352).

Training and education may also be a means to stabilize a firms' work forces. The provision of educational opportunities makes a firm more attractive to ambitious, upward mobile adults, and raises the morale of most workers. Employees chosen for development programs may feel they have been given a vote of confidence or that the company cares about them (French, 1978, p. 352; Lusterman, 1977, p. 6).

Volume of Industry-Supported Training

It is not surprising, then, that business firms do a large volume of education and training and that a significant portion is aimed at management and supervisory personnel. Employees engaged in business- and industry-sponsored education, alone, account for ten percent of all adult learners in the United States. And, this figure does not include adult employees who use firms' tuition reimbursement to enroll in educational institutions, nor those enrolled in learning sponsored by unions and professional associations. Together these two groups constitute another 10.4 percent of adult learners. These three areas account for more than one-fifth, or over twelve million adult learners (Arbolino, 1978).

Surveys of training in industry consistently indicate several organizational characteristics are related to the quantity of training companies provide. The most obvious relationship is that larger companies tend to be more active than smaller companies in providing training for their employees. Lusterman (1977) found that the proportion of companies

reporting training programs of all types increased with the increase of company size. For example, among companies in the largest size category (10,000 or more employees), 87% reported they provided in-house technical training, and 91% reported in-house management and supervisory training. In the category of smallest companies (500 to 999 employees), 42% reported in-house technical training and 47% reported providing in-house management and supervisory training (p. 49). These findings are consistent with Serbein (1961) and the Carnegie Commission on Higher Education (1973), earlier surveys of industrial training and education activity.

Lusterman also found that training was more prevalent in certain types of industry than others. Financial organizations, utilities, as well as transportation and communications firms were more active in training than the more traditional manufacturing industries.

Lusterman's study also distinguishes between managerial and supervisory training on the one hand, and technical training on the other. Although he found that more total people participated in technical and functional skills training (specific job knowledge and skills), a slightly higher portion of companies (60%) had management training programs than those who had programs in technical and functional skills (54%). Within management training, he does not distinguish the relative proportions of training for middle management and first-level supervisors.

Structure of Management for the Training Function

Industry's response to workforce and technological change is indicated not only by volume of training activity, but also by the ways in which they have structured the management of the training function. Among the companies responding to Lusterman's survey, most (60%) still delegate the management of training to people who have other primary duties in the company. Only larger companies have full-time training professionals. These people tend to work out of a central location and service outlying plants, and they, themselves, tend to design and run only programs which meet interdepartmental, more universal needs. Previous studies have found a similar pattern of training management organization (Serbein, 1961; Shetty, 1971). Given that few companies have full-time training managers, it is not surprising that Lusterman found most companies conduct training programs in conjunction with consultants and contractors from outside the firm.

An interesting relationship emerges among company size, specialization of the training function's staffing, and use of outside resources for training managers and supervisors. Since specialization increases as company size increases, one might expect larger companies to do more of their own training and use outside sources less. Conversely, one might well expect smaller companies, who cannot afford to launch sophisticated in-house training, to avail themselves of outside sources. In practice, larger companies send a larger proportion of their

employees to outside programs than the smallest companies. The availability of funds to pay for the outside training and the availability of staff person hours needed to locate and arrange for outside training are additional factors which may explain the apparent inconsistencies (Lusterman, 1977, pp. 20-23).

Management Development Training for Executives and Middle Managers

This study focuses specifically on college and university sponsored management development training for first-line supervisors. Of the scarce existing literature on college-based and/or sponsored training, the more pertinent to this area deals with training for middle managers and executives. Reviewing it will provide a sense of the general structure and content such efforts share with supervisory management development training programs and the issues relevant to both.

College and university sponsored management development programs tend, like most adult education programs, to be structurally separated from their schools' programs for students pursuing bachelor and graduate degrees. Branscomb and Gilmore (1975) explain one reason for this common characteristic. Corporations, needing a significant number of managers who can address new organizational challenges with a knowledge of principles and "universals" which have value in a wide range of circumstances, have asked institutions of higher education to provide appropriate instruction. But, since the regular

channels of curriculum approval move too slowly to provide business with what they consider to be a timely response, many academic institutions have established, with the cooperation of business leaders, management development programs, which are separate from their regular college curricula (pp. 227-228).

In the 1978 edition of his digest, Bricker identifies seventy "executive development" programs, an increase of six over the previous year. Most are university-sponsored, deal with problems of industry and management, and require at least two weeks of in-residence attendance. Pearse (1974) reported that of the 2,000 companies he surveyed, 39% regularly sent managers to college or university executive or management courses, slightly more than half the number of companies who sent managers to professional management training organizations (66%) and about the same number as conducted well-defined, in-house programs (43%) (p. 18). These programs then are an integral part of many companies' overall management development programs. They are, however, used primarily for middle managers; almost three times the proportion of companies sent middle managers (26%) as that which sent first-level supervisors (9%) (Miner, 1977, p. 13).

In 1962, Powell studied resident and part-time programs. He inquired about many aspects of the program such as the participants' and their companies' profiles; their expectations of the program; their evaluations of the programs'

methods and outcomes; and participants' progress after completion of their programs.

Participants named several outcomes as especially valuable:

- Reassurance that other managers had similar problems
- Development of self-confidence
- Development of a broader perspective
- Increase in objectivity in decision-making
- Acquisition of a management perspective (for those moving into management from non-management positions)
- Increased understanding of one's relationship to subordinates
- Realization of past personal achievements
- Provision of an environment conducive to reflective thinking (pp. 74-75)

Powell's study stands out as the only one which deals with participant's perception of important outcomes.

His study addressed programs designed for middle managers. But, Powell expressed concern that, even though the development of good managerial skill was a gradual process, there was at that time "an almost complete lack of university-sponsored management development programs for lower level supervisors, and only a few courses of study aimed at the middle level of administration" (pp. 67-68).

He also discussed several complications for the university, including a call to accept the responsibility to provide

continuing educational opportunities beyond work toward undergraduate and graduate degrees, as a legitimate mission of the university in a rapidly changing field. Business, in its turn, he suggested, should appraise its management development policies with reference to questions such as (1) how university programs relate to company objectives and to in-company training, (2) who should have responsibility for the development of supervisors, (3) how participants in management development programs should be selected, and (4) how the company could provide "an environment conducive to the utilization of the program's benefits..." (pp. 71-73).

Program Content

With reference to the curricula of management development programs, Powell's findings are consistent with the findings of other studies. Miner's (1977) survey revealed that employee relations, leadership skills, EEO (Affirmative Action), and wage and salary administration, were topics included in more than 75 percent of the in-house programs in the companies surveyed. Topics such as interviewing techniques, employee benefit programs, communication techniques, safety and decision-making techniques were reported by more than 50 percent of companies surveyed.

Outside programs tend to include the more generic of these topics, that is, the topics dealing with conditions and techniques universally encountered or used in virtually all companies regardless of size or product. For example, in Powell's

(1962) survey, 'human relations' ranked as of second greatest interest in the UCLA program and tied for first among his nationwide sample (pp. 30-31). Lusterman found that 60% of the companies surveyed provided in-house courses such as 'Principles of Management, Sensitivity Training, Management by Objectives, Decision-Making, Interpersonal Relations Skills, EEO, and Training of Trainers.'

Finally, in Wikstrom's (1973) study of supervisory training (to be discussed further below), subjects such as 'human relations,' 'leadership,' 'working with people,' and similar titles, when lumped together, were mentioned more than twice as often as the second most mentioned subjects, 'management theory and concepts.' The subject areas ranked in the next three spots were more company-specific subjects (p. 11).

In summary, the literature supports a few generalizations about subject matter or content of management development programs. First, some form of human relations is included most often. Second, in-house programs tend to include explanations of policies and procedural aspects of management positions, subjects which tend to be unique to individual plants or companies.

Needs Assessment and Evaluation

The consideration of subject matter and content lead into two of the basic problems in the training and development process: (1) needs determination and (2) evaluation of outcomes. These functions especially reflect the current system

oriented approach advocated in several leading texts on effective management of the training process (Patten, 1971; French, 1978, Chapters 15-18; Otto and Glaser, 1970; Tracey, 1974; Warren, 1969; Taylor and Lippitt, 1975; Watson, 1979). Kirkpatrick (1978) identifies a wide range of means the training managers should consider for determining training needs:

- analyzing the job
- analyzing 'problems' in the plant
- asking supervisors
- asking their supervisors
- asking their subordinates
- testing for knowledge or skill
- observing their on-job behavior
- analyzing performance appraisals
- exit interviews
- using advisory committees
- study what other organizations have come up with
- identify universal training needs (pp. 10-14)

Each has its merits, and each its disadvantages.

The literature reflects the diversity of conclusions about needs reached with these different methods. While one writer asserts training in listening skills is the only content which will produce quantifiable results (Iberman, 1975), others conclude that situations differ so greatly among plants and among supervisors that programs must be individualized to be effective (Jerdee and Calhoon, 1977). Iberman focused on

production problems and production statistics, while Jerdee and Calhoon based their conclusions on a survey of supervisors' opinions. And, using a different set of terms for potential topics, Adams and Giles (1980) found a slightly different ranking.

Evaluation is a closely related problem, with as much variance in informed opinion. Distinguishing the influence of training from that of several other factors is difficult at best, especially when the production outcomes are only partially the result of any one position's occupant's behavior. Needs determination and evaluations are difficult to accurately perform, but the attempt to gain greater skills in these areas accounts for one of the major changes in the training and development function's staffing. Within the last twenty years, firms have moved from minimal or no training staff structure to the current trend toward full-time directors with their own staffs and responsibility for training within a company or a plant (Lusterman, 1977, p. 13). Like other aspects of the training function, full-time training staff seems to be more likely the larger the company (Lusterman, pp. 23-31). As the training function becomes more specialized, needs determination and evaluation tend to be more sophisticated.

The Supervisor's Position: Problems, Training, and Other Solutions

The position of supervisor has been a topic of intensive study off and on since the second World War. Among all that has

been published, two comprehensive studies, one by an American and the other a joint research effort between English and Swedish sociologists, are especially noteworthy and most often cited in the literature. Thomas Patten's 1968 book, The Foreman, Forgotten Man of Management, integrated the American literature up to that point and focused the issue of potential solutions to the problem of ineffective first-line supervisory performance. Four years later, Thurley and Wirdenius (1972) published the results of an exhaustive ten-year research effort which used anthropological and sociological techniques to more closely define the 'problem' of the supervisory role and more critically assess the solutions often proposed in the literature. They concentrated on the supervisory role as it exists in Europe, distinguishing it in some important respects from the American model.

Patten describes the chain of events which has changed the supervisory position as it currently exists. In the first two decades of this century, foremen, or first-level supervisors (the terms are used interchangeably in this paper), wielded much power. They were responsible not only for scheduling and organizing work in the production process, but also for hiring, paying, and disciplining workers. In these functions, they were accountable to no one. In fact, plant managers often depended on their foremen for advice for control of their workforce. From the time of Frederick Taylor's innovations, which subdivided tasks and delegated them for efficiency, the

power of the foreman's role has diminished. Duties related to hiring, discipline, job assignment, quality control, work design and organization, and work standards, now belong to specialized staff experts or are specifically circumscribed within the terms of collective bargaining agreements.

The supervisor serves primarily as a coordinator and problem solver, with primarily production pressures. Her or his job has much external performance pressure but provides little authority to demand performance of supervisees. According to Patten and others, the first-level supervisor is frequently bypassed in communications between upper management and union leaders about matters which directly affect his responsibilities. Often, too, the foreman is the victim of contradictory demands from more than one boss, and his or her authority and responsibility are vaguely defined, if at all. Therefore, first-level supervisors are described as "men [and women] in the middle." With advances in technology, the foreman's position in many plants is to step in when machine functions break down, or when human elements make mistakes which obstruct machines' most efficient use. Patten's (1968) most succinct statement of the problem of the supervisor is that he or she has the responsibility for outcomes without the authority and resources to control those outcomes (p. 58). Supervisors have been forced to employ persuasion or, at worst, manipulation with "human relations techniques" to motivate workers to put out the expected quantity and quality of the product.

Often the first-level supervisor is a person who has risen from the ranks of hourly workers. Management often selects foremen based on their abilities as hourly workers rather than for characteristics and abilities which relate more directly to the demands of supervisor's jobs. Unfortunately, middle managers often establish company or plant policies without knowledge of the supervisors' job demands from management or hourly workers. This, indeed, is the condition which gave rise to Patten's subtitle, Forgotten Man of Management. Since many have recently come from the ranks of the hourly workers, new first-level supervisors often suffer from role or reference group conflicts (Rosen, 1970).

There is a copious literature about the supervisor's role in the management business literature, without major consensus. Many articles chronicle the progress of the problem (Bernthal, 1958; Strauss, 1957; Quale, 1976; Driscoll et al., 1978), stating above all that supervision continues to be a problem in the sense that upper management does not feel supervisors' units are efficiently managed. Another type of article aims to define or redefine the problem (Tavernier, 1976), often redirecting attention to sources other than the supervisors (DeLong, 1977; Smiley and Westbrook, 1975), or in some cases, questioning whether there is a serious problem at all (Kay, 1963).

Managers see training as the primary, if not the only, solution to "inadequate" supervision. Yet, there is agreement that supervisors' skills, knowledge, and attitudes are only part of the problem, and thus that supervisory training is only one of the solutions. Patten (1968) argued that the position should be elevated, assuring foremen the status to deal with staff departments and the authority to influence the decisions which determine production output and its quality. Other observers have proposed this type of solution as well (Muendel, 1970; Smiley and Westbrook, 1975; Rosen, 1970). If the organizational problems built into the supervisor's role were addressed using this approach, then the goals of supervisory training would be more realistically limited to those of other management development problems. Training, these authors imply, can appropriately resolve only those problems which result from the man or woman's lack of skills, knowledge, or objective attitudes. Training, in this view, cannot solve the problems of the position itself.

Thurley and Wirdenius' book, Supervision: A Reappraisal (1972), supports these suggestions with careful research and analysis. They offer three distinctions which clarify much of the debate about problems and solutions. First, they note that this problem is differently defined from the perspective of the business executive, the supervisor, and the research scholar. Second, they carefully provide a systems analysis of factors which shape the effectiveness of the supervisory role. That is

to say, they identify variables which determine the possibilities of the role's influence and describe the relations among them. Third, they specify six separate sources of supervisory role ineffectiveness and the six corresponding "routes to change."

Three of these focus on changing the job: (1) changing the role structure (organizational change), (2) changing personal demands made on supervisors (interpersonal climate change), and (3) changing technical demands (technical environment change). The others are designed to change the person. (4) Changing supervisors' personal capacities (selection and promotion policy change), (5) changing supervisors' job behavior (change through training), and (6) changing supervisors' 'mental set' toward their jobs (attitudinal change through education) (Thurley and Wirdenius, 1972, pp. 18-19). Each route is predicated on a decision usually made by upper level executives in an organization about the root cause of supervisory ineffectiveness. It is not surprising, then, that training is a popularly chosen route for improving supervisory effectiveness. Supervisory training, whether for behavioral or attitudinal change, displaces the burden of change away from executives and middle managers. The remaining four routes to change require executives and middle managers, either to make personal changes to improve the interpersonal climate, or to initiate and push for organizational changes which will involve a large number of people, and almost surely create conflict and

resistance. This situational context generates the decision to train supervisors, and channels the outcomes of that training once supervisors return to their place in the organization.

To say that supervisors' training is not the only appropriate approach to improving supervisory performance is not to say that such training always is inappropriate. In those situations where it is appropriate, there are additional concerns, which are discussed in the literature dealing specifically with supervisory training. The first of these is accurately determining supervisors' training needs, and determining if those needs have been met by a given training program. Iberman (1975) asserts that there is only one type of need which training programs can meet and document quantitatively: the need to improve listening skills. At one level, Iberman sets himself in conflict with other researchers who come to different conclusions about training needs (e.g., Jerdee and Calhoon, 1977; Adams and Giles, 1980; Prien, 1963). More broadly, it illustrates the complexity of the supervisor's position in all its settings and the fact that different observers call the same behaviors by different names.

The literature also contains evidence about which training sources business firms consider most appropriate for training their first-line supervisors. Wikstrom (1973, pp. 9, 17) finds that supervisory training, like other training, is most frequently sponsored by larger firms than by smaller companies. But, he makes only vague references to the proportion of

supervisory training done by outside sources. Miner (1977), however, indicates that supervisors receive far less training from outside sources than middle managers and executives (p. 13). This may reflect executives' attitudes about who "deserves" or "will use" outside training. It more likely reflects the perceptions of outside trainers, particularly colleges and universities, of what is the appropriate minimum status and previous educational attainment of their adult clients (Powell, 1962; David, 1979).

Higher Education: Problems and Some Proposed Solutions

The most pressing problem of American colleges and universities is economic survival. The chief cause is a combination of declining enrollments from its traditional recruitment pool of eighteen to twenty-two year old students in the face of rising operating costs. According to one key observer (Kerr, 1979), one's judgement as to the precise nature of the problem depends upon the percent of enrollment decline one predicts. Optimistic observers, assuming that declining participation rates over the last decade have been an abberation, predict a return to old participation rates and the addition of new client groups for a net increase in enrollments of twenty-five percent. At the pessimistic end of the continuum, there are those who predict a decline in enrollments of 40% by 1992. Kerr and Carnegie Council on Policy Studies in Higher Education (CCPSHE) take a middle position in their final

report, 3,000 Futures (1980), predicting a decline of between 5 and 15 percent between late 1970's and 1992 enrollment figures. If the optimists are right, all institutions should survive. If the pessimists are correct, every college and university will be threatened. But, if the Carnegie Council is correct, then the judgment will be made on an individual school-by-school basis, and thus there will be three thousand individually determined futures.

In this study, I assume this third position. Under these conditions, some colleges and universities, especially the small liberal arts colleges, face a future which depends upon basic policy decisions they must make now. These institutions are dependent upon tuition revenue for operating expenses. If they suffer the maximum enrollment declines, they will not survive (Carnegie Council on Policy Studies in Higher Education, 1980). They have several alternative strategies they may employ to avoid enrollment declines. The first is to attempt to compete successfully for the traditional populations from which they have always recruited. A second is to retrench and concentrate on a sub-pool of their traditional recruitment sources. And, a third, much-heralded approach is to seek new clientele, particularly adults.

The view that adult students should be heavily recruited as the clientele of the 1980's has been gaining proponents for a decade. The initial argument was that adults needed the opportunity of access to continuing and recurrent education in

order to adjust to a rapidly changing society and world of work. Moses (1971) gave wide coverage to the concept of the "learning force," those adults involved in the learning programs of the educational "periphery." The "periphery" was his term for the programs of training and education not included in the sequential progression ladder of educational progression ranging from kindergarten through graduate and professional school. The latter he called the "core." His argument was that educational policy should be made within this more "comprehensive framework" in order to serve the needs of the society best.

This basic idea received the endorsement of the Carnegie Commission on Higher Education in its 1973 publication, Toward a Learning Society. The authors identified recommendations from seven previous Commission studies which proposed that higher education in various ways extend the opportunity of higher education to the new clientele of adults. Its broader recommendation was that adults in this country should have access to a variety of channels through which to develop primarily their vocational potential. And, they asserted that since only 27.5% of the country's adult population had completed as much as one year of college, there was a great potential demand for higher education among American adults (p. 52).

This sort of optimism was echoed by several observers. Long (1974) cited three pressures for the acceptance of lifelong

learning: (1) the 'naturalistic' human need to adjust to change so as to self actualize, (2) dramatic social and technologic development, and (3) institutionalized pressures for the survival of the educational establishment in higher education which had burgeoned in the boom years of the 1960's (p. 4). Joining the same theme, the American Association for Higher Education published in the same year Lifelong Learners--A New Clientele for Higher Education (Vermilye, 1975), in which one contributing author suggested that the new clientele might "provide new life for faculty and institutions" (Bess, 1975). Ricklefs (1975), in a survey of adult and continuing education success among colleges and universities in the New York City area, cited one college that achieved a return of 1.8 million dollars on gross fees of 6.0 million dollars, a 30% return.

By 1976 there was definite evidence that college and university presidents had translated this optimistic outlook into policy and program, or soon planned to do so. In the report of the results of a national survey of college and university presidents (Glenny et al., 1976), the Carnegie Council on Policy Studies in Higher Education provided evidence that the most pervasive new strategy in student recruitment was directed at the adult market (pp. 44-45). This recruitment effort was strongest in the public institutions, still 55% of private universities and comprehensive colleges reported extensive increases in the recruitment of adults over the age of 22. This more than doubled the proportion who had reported extensive

efforts to recruit adults in the previous four year period. The authors indicate indirect evidence that these efforts were successful insofar as the institutions reporting extensive recruitment did not show major declines in the overall enrollments (pp. 185-187).

By 1976, however, there were voices of caution and criticism. Glenny et al. (1976) cited several difficulties reported by the responding presidents: (1) few anticipated much expansion in staff assigned to adult programs, (2) the untapped pool of adult students may not be large enough to meet everyone's needs as schools get deeper into enrollment declines, (3) if required to be self-supporting, many adult programs will not be able to survive, (4) the right people in many cases will not be available to teach the new programs at new times and places, and (5) oversupplies of trained people will result in many areas and soon the new markets will dry up.

Indeed, Blaug and Mace (1977) charge that such details have not been thought out, and the promise of adult education for institutional survival has been grossly oversold. They suggest that adults have indicated no overwhelming appetite for traditional credit courses and that colleges and universities have demonstrated little appetite or capacity for adjusting to meet adults' perceived needs (p. 298).

Stoel (1980) likewise cautions that the experience of the past several decades in adult higher education reveals five key issues for adult program success: (1) integration with the

colleges' de facto missions, (2) careful planning for the transition to adult programs, (3) establishment of programs based on what is known about adults' learning need, (4) the emergence of strong leadership and faculty redirection, and (5) fair pricing of programs (pp. 4-6). Unless these prerequisites are met, she warns that new programs for adults will not succeed for long.

Patton's (1975) research demonstrates also that sufficient faculty incentives must be built into adult extension programs. He found that academic units tended to be motivated as units by the prospect of securing new faculty positions, and that this was an incentive only for those departments threatened with the loss of some positions (pp. 433-435). The disincentives for academic units were fears about the compromise of standards and an unwillingness to make life-style and teaching-style changes required by adult programs (pp. 435-437).

While Patton discounts the threat of faculty resistance (finding faculty apathy a more serious obstacle) other authors describe rather detailed reasons why college faculties are ill-equipped to adjust to the prospect of establishing adult programs as a means to counter-balance the decline in traditional enrollments. Tonn (1978) and Tucker (1973) describes typical communication patterns which serve to stifle decisive action and dilute final solutions, and Mandelbaum (1979) argues that the nature of faculty lifestyles militates against intra-campus communication which in turn reduces colleges' ability to

learn from their policy actions. Ahlgren and Boyer (1981) describe the confusion over the definition of "liberal education" (which often becomes the point of conflict when new, more vocationally oriented adult programs are introduced) as an additional reason faculty resistance is not overcome. Finally, Ladd (1972) and Thompson (1972) identify the consensual decision-making style characterizing college and university governing bodies as another reason higher education will have trouble enacting new programs in response to enrollment declines.

In summary, it can be said that recruiting adults to new programs has proven successful for some institutions, and that these successes have likely come after several types of obstacles and have either been overcome or avoided. Glenny's presidential survey results also suggest that programs which have succeeded to this point may not continue to prosper if the competition for adults stiffen in response to continued declines in the traditional population. This study and Stoel's (1980) article suggest further that the key to lasting success is making the structural, attitudinal, and financial linkages between traditional program supports and adult program supports.

Attitudinal linkages refer chiefly to obtaining faculty and administrative understanding of the nature of adult educational programs as well as their requirements for support. As some of the immediately foregoing discussion indicates, host

institutions face common difficulties in accepting adult education programs, particularly on four-year college and university campuses. David (1979) explains some faculty resistance as an effort to avoid making very basic changes in their orientation toward students. There is also discomfort with symbolic aspects of adult programs which to many faculty mean low or second class status in the academic community. In a recent issue of the New Directions for Higher Education series, two authors (Votruba, 1981b, pp. 13-28, and Miller, 1981, pp. 29-36) suggest that adult educators who wish to succeed when the college campus is the host institution need to pursue long-term strategies for planned organizational change. This includes addressing faculty members' symbolic and security concerns.

Structural relationships within the host institution have long been a concern to adult educators. For Clark (1968), the typically peripheral adult education within host institutions explained adult programs' dependence on the host institution for all aspects of their program, including faculty. Apart from being peripheral, other issues of program structure remain. Gordon (1980) discusses the issue of centralization versus decentralization of adult learning programs structure within the host institution. Proponents of decentralization reason that units of the college or university (when that is the type of host institution) develop a greater commitment to the adult program and produce more creative contributions. Proponents of a more centralized structure hold that decentralization relinquish the ability to share resources, and thereby maintain some

programs through their down cycles by shifting surpluses from other programs. Representatives from external organizational-users of college adult education services such as the program under study here, comment that decentralized responsibility for adult education makes it more difficult for them to locate appropriate programs and negotiate programs to meet their specific training needs (Gordon, 1980, p. 189).

Policy Issues in Adult Education

Earlier, at the end of the previous section, I referred to linkages. Much of the post 1976 literature cited in that section referred to the fact that the realization of the "learning society" in this country is hampered by the fact that important linkages, necessary steps between where we are now and where we would like to be have not been given careful consideration. National policy toward lifelong learning is a prime example of this failure according to some adult educators.

The literature concerning national policy toward lifelong learning contains important questions which this study addresses. Since passage of the Mondale Act of 1976, national policy initiatives regard training for employees, including programs like the WMDP, is seen as part of an adult education system for the United States. It is not clear, however, where training for supervisors and foremen fits within the overall educational system. Lusterman and others raise questions such as these: Does the firm for which a person works determine the

quality and type of educational opportunities he or she will have? Do the educational programs developed separately in business and higher education benefit from each other's unique experiences and histories? For example, are business-run training programs broadened, and do colleges' course instructors learn to specify methods and results over shorter learning times as a result of the interaction with the business firms' training staffs?

Questions about the interrelations of education and training in business and in higher education bring the discussion within the context of current policy debates concerning the system of adult learning opportunities in the United States. The passage of the Lifelong Learning Act of 1976 (Part B of the amended Title I of the Higher Education Act of 1965) encouraged several extensive studies and reports, variously sponsored and financed. The purpose of these studies and reports was to determine to what extent the intent of the act, the realization of a "learning society," already exists in this country. Conclusions are implied by the thrust of the individual recommendations.

First, there is no conceptual criticism of the existing programs. Instead, all accept the basic concept that adult education is an activity which properly takes place through organizations and programs (Rockhill, 1979). The primary level of analysis is the organization and the social group. In the ETS study, Lifelong Learning in America (Peterson et al, 1979),

the term "lifelong learning" is identified as "a conceptual framework for conceiving, planning, implementing, and coordinating activities designed to facilitate learning by all Americans throughout their lifetimes" (Peterson, p. 5). Given this shared assumption, all the studies recommend steps to make the current organizations and programs doing adult education work together to facilitate access to the opportunities contained within such organizations and programs.

The investigators who address the politics of gaining government resources for changes indicate that federal legislators and executives do not see a "problem" beyond coordination and more efficiency. Given their view that voters want Washington to reduce its spending and involvement, they will not initiate nor support any proposals for bold new initiatives. Therefore, recommendations speak to: (1) matching learners to resources, (2) coordination of existing resources, (3) limited finance, and (4) increased private sector activity (Peterson et al, 1979).

Critics such as Cross (1979) argue that there are large and important gaps in the current loose institutional system through which adults gain formal learning opportunities. First, the free marketplace model that emerges tends to present opportunities designed primarily for adults who are ready to build on a basically sound education, thus widening the learning gap between the advantaged and the disadvantaged. But, apart from this criticism, she feels the problem with the

matching model lies in the weakness found among most agencies which now do, and presumably would then, help adults match their learning needs to opportunities. These agencies are likely (1) to lack adequate information in a usable form, (2) to fail to reach all adults with the information, or (3) to have staffs which are not skilled enough in counseling to determine needs and communicate information effectively.

In accepting this model, albeit with cautions about its flaws, the apparent majority of adult education policy influentials ignore a basic access question. They assume that men and women standing outside the organizations in which educational opportunities are housed can gain access if provided with information about where opportunities described in Lusterman's report are available only to members of, that is employees of, business and industrial organizations. The opportunities are attached to the jobs, not to the people themselves.

The inadequacy of a second apparent assumption is the impetus for this research study. The assumption is that policy makers can plan and design systems for the future based on static descriptions of the programs that make up the current opportunities structured. In fact, they must also know the dynamic qualities of the current system--the trends and the basis upon which existing organizations do now, and might in the future, interact to create new opportunities or bridge awareness and access gaps between existing opportunities.

Clearly, higher education and private business programs in adult education are considered prime elements in the future lifelong learning system. And, programs in which these two types of institutions have consciously tried to work together can provide data for evaluating proposed models.

Two recently published collections of articles deal with additional linkage issues related to competition among adult education suppliers, intra-institutional support for adult education programs, and the financing of adult learning programs. The first entitled, Power and Conflict in Continuing Education (Alford, 1980), is in book form and organized in a format in which each topical article is followed by a panel discussion. The second collection is contained in a special issue of entitled, "Financing Continuing Education."

Kost, in his chapter of the former work (Alford, 1980, pp. 38-60), notes that corporations which once approached higher education as a potential source of training for their managers, are now producing educational programs and marketing them in competition with colleges and universities. For a field which has often struggled to attract students, such aggressive marketing poses a difficult adjustment problem. Kost strongly urges cooperative efforts between colleges and companies.

Kost later points to a related linkage concern which bears upon colleges' ability to compete successfully with other organizations for adult students, the organization of the adult and continuing education programs within colleges and universities. Gordon (1980, pp. 170-187) addresses this issue

directly and advocates greater centralization of continuing education as a means of enabling the adult education administrator to coordinate revenues and services among several units of administrative continuing education in a given school. In contrast, Loring (pp. 192-193) argues that decentralization of continuing education programs encourages an entrepreneural approach to programming and that this is more productive of new ideas. As the spokesman for industry, Kost indicates he prefers centralized organization because it is easier for companies seeking education or training sources to contact a single office rather than search among several departments.

Gordon's concern to have control over revenues for adult education is directly addressed by Loring (pp. 132-156). She asserts that programs follow dollars; that the "sources of money for continuing education describe, define, and delimit all the processes, the programs, and the operating philosophy of continuing education" (p. 132). She recognizes that continuing education programs are subjected to more restrictive budgeting demands than the "regular programs," but, she boldly states that, while continuing educators charge that such policies are unfair, they are often not equipped to state authoritatively whether their programs produce a net gain or loss for their institutions. Continuing education administrators must be able to answer these questions before colleges and universities will be willing to shift budgetary dependency from more secure traditional students to the more volatile adult market (p. 135).

These are hard realities with which to confront many adult educators, but their ability to cope with the economics and finance of continuing education will determine, as Windham et al. (1978) assert, what opportunities will be available to whom in the "learning society."

Human Capital Investment

The last section of the literature review addresses the economic concept of human capital as a means to delineate some of the implications of the interplay between economics and adult learning opportunities in college-based supervisory training programs.

Human capital is the aggregate of skills, degrees, education, and experience individuals acquire. As Theodore Schultz more generally expressed it, in his initial essay (1961), human capital is "useful skills and knowledge" (p. 1). Schultz and other writers refer to "investment in human capital," implying that the people anticipate a return for the acquisition of human capital. This section of the literature review briefly explores the concept of human capital and its subsidiary concepts as a framework within which to understand decisions about supervisory management development training, especially the economic aspects of those decisions. This is largely a theoretical rather than empirical discussion, whose purpose is to clarify questions concerning the dynamics of college-based supervisory training. The following is a statement of the essential concepts drawn from two basic essays by chief human capital theorists, Becker (1971) and Mincer (1971).

Individuals and organizations make investment decisions based on the consideration of the several characteristics of human capital. The first is the cost of the investment. Early in an individual's life, this is a relatively simple computation; it is simply the dollar cost of the training or education and the costs, if any, of obtaining the money (e.g., interest on a loan) to pay for training. However, as one continues to invest and accumulate human capital, he or she encounters additional costs at the next investment decision. Acquired skills, education, and experience can be sold, i.e., the person can take a job, and begin receiving a return on previous investments. Thus, the costs of further investments will include foregone wages.

Time becomes a cost factor as well. First, a worker will consider the amount of time available in his or her work life during which to collect on additional investments. Therefore, a second time factor, the period required to gain the next significant increment in human capital, must be considered. As an investment, an additional four year degree may be too costly in lost collecting time, but a three week evening certificate course in a specific skill may be an effective investment.

A final consideration is the relationship of previous training and education to contemplated investments in education and training. Adults can more quickly and effectively achieve a high level of performance in a new skill or knowledge area if the training necessary builds on previously acquired

skills or knowledge, than if the training involves totally new learning. Thus, the more human capital a man or woman acquires in a given field, the more costly it becomes to shift to totally different fields. This cost is compounded when one considers that beyond a certain age, he will be competing for job positions with younger workers who can offer an employer a longer period of return on his investment in them.

These considerations have several important implications for adult training programs. A broad implication explains why adults tend to prefer short-term, focused education and training over longer degree programs. The former are less costly in money and time, and can be targeted to build on previous skills and address specific ones.

Human capital theory's most important implication for training like that offered through the WMDP has to do with the availability of the funding to support it. Funding sources are tightly segmented; they are, in other words, available only to certain individuals. Most supervisors could not afford the cost of fees and lodging (up to $750.00), travel, and lost salary. But, even if they could, it would not be available to them. Worthingham University contracts directly with employers for participants.

These circumstances change the nature of human capital investment decisions. The individual does not consider an investment in training; he pursues a job position which carries with it the opportunity for company-paid training. And, if he

is sophisticated and has access to the information, he tries to secure a job which is located in a company which rewards learning with promotions, or which provides training in skills which can be used in other companies.

The employer under these circumstances tries to recruit employees who can be trained most readily. It is presumed the employer can determine trainability. In practice, employers tend to regard educational attainment as the indicator of trainability, whether he has proof of the relationship between educational attainment and trainability or not.

Because recruitment and training take place in the circumstances described, some economists (e.g., Thurow, 1975; 1980) question human capital theory's characterization of the hiring transaction. In human capital theory's conceptual scheme, successful job applicants rent their acquired human capital to employers. Thurow argues this is not the case. In his view, employers allocate training slots. And, potential applicants attempt to gain the level of educational attainment required for desirable training slots, regardless of the education's relationship with their ability to perform the job's responsibilities. The result, when employers use educational attainment to reduce the pool of applicants they must consider, is a tendency for wasteful investment in education and training--wasteful for the individual as well as for society.

Human capital theory has important implications for access to learning opportunities, also. If Thurow is correct, the

increasingly higher levels of educational attainment required for most jobs with promotion potential life these training slots out of the reach of many men and women who have the ability to perform well as supervisors and benefit from training, but who, because the lack of family support or the existence of discrimination, cannot afford to forego the earnings lost while investing in higher levels of education.

Human capital theory has one final implication relating to non-training variables in employee performance. Presumably, employers would seek to create the circumstances in which trainees would be encouraged and supported in the use of newly learned management skills. Doing so would maximize the return on their investment. This study attempts to determine whether this and the other implications of human capital theory are realized among the plants studied.

CHAPTER III

METHODOLOGY

This research is a case study (Sellitz, Jahoda, Deutsch, and Cook, 1967, pp. 59-60) of the Worthingham Management Development Program (WMDP) at Worthingham University and of the plants which have used the WMDP as part of their training for first-line supervisors. As such, it is an analysis of the training system for first-line supervisors formed by the cooperation of Worthingham University and the manufacturing plant users. It will describe not only the activity directly related to the university's and the plants' involvements in the WMDP, but also the relationship of WMDP activities and structures to the overall activities and structures of the university and the participating manufacturing plants.

The study is descriptive and in many respects exploratory (Sellitz, et al., 1967, pp. 50-78). It is descriptive in the sense that it is concerned with describing the characteristics of how a particular type of training is used and with estimating the proportion of organizations which use training in certain ways, within given structures, and for certain reasons (Sellitz, et al., 1967, p. 65). The study is exploratory because it has the purposes "of formulating a problem for more precise investigation...of developing hypotheses...of clarifying concepts...and of establishing priorities for further research (Sellitz, et al., 1967, p. 51).

The study's fundamental premise is that by studying carefully the factors which might have determined the WMDP's success, i.e., the basis for its success, one can come to tentative conclusions about the factors which are likely to determine success or failure for college-based management training programs which attempt to attract and serve participants sponsored by business and industrial organizations.

Stated in more detail, the basic argument upon which the study is based is as follows. Its first premise is that the WMDP is successful in that it has survived for thirty years and continues to attract users. This success may be attributable to several factors. These factors may include the direct and intended program outcomes, indirect and unintended program outcomes, processes according to which the WMDP is administered and used, the organizational structures established by the university for administering and by the plants for using the program, and the historical situations in which the program was established and those in which it is currently conducted.

These factors are in several instances the product of policy decisions made by business managers and university administrators. Managers and administrators involved in any college-based management training program will have to address these factors as they establish and run a college-based management training program. By examining factors influencing the decisions made in establishing the WMDP and maintaining it successfully during its thirty years, as well as the given

circumstances which may influence program success or failure, but which are not the result of policy decisions, one can learn something about what factors have accounted for the WMDP's success. Therefore, to the extent that the WMDP's situation is similar to other college-based management training programs, the findings and conclusions of this research may be applied in policy decisions about whether to establish or to continue sponsorship or use of college-based management training.

As the study explores the several factors which may have contributed to the WMDP's success, it will examine the factors commonly considered in program analyses, i.e., direct program outcomes compared with intended program objectives, and the internal program processes. But, it will also take into account other factors which are sometimes de facto program evaluation criteria. The primary research methodology, then, is program analysis supplemented to gather data on variables in addition to those which are examined in the program analysis method.

Poister neatly defines and explains the purpose of program analysis.

> "The term policy [or program] analysis refers to the analysis of the determinants, characteristics, and implications of public policies and programs, particularly of the relationship between the content of policies and programs and the substantive consequences and outcomes they produce (Poister, 1978, p. 4).
>
> Its primary and most legitimate purpose is to provide information on an objective basis for improved decisions regarding the original design, implementation, continuation, or modification of a program (Poister, 1978, p. 5)."

Some of the concerns of policy decisions, which such an analysis informs, are:

1) Whether to continue a program or not
2) What its optimum structure would be
3) How procedures and practices might be improved
4) Whether to add or delete specific program strategies or procedures
5) Whether to establish similar programs elsewhere
6) How best to allocate resources
7) Whether to accept or reject a program approach or theory (Poister, 1978, p. 8).

These are precisely the decisions being made, and to be made in the future by business executives, higher education administrators, and public officials about college-based training for business firms' supervisors and other management employees.

Subjects

The subjects whose action and opinions are investigated in this study are (1) Worthingham University and the Worthingham Management Development Program (WMDP), (2) the manufacturing or processing plants which use the WMDP, and (3) the first-line supervisors from those locations who have participated in the WMDP, the participant-supervisors.

Worthingham University is a four year liberal arts university. It is located in a small central Ohio city. Worthingham derives identity from, and is most concerned about,

its undergraduate program, but it also offers masters degree programs in music and education. The full-time undergraduate population numbers approximately 2,200. The university's current president assumed the position in 1977.

The Worthingham Management Development Program (WMDP) is a one-week, intensive training program, designed to improve the management competence of its participants, first-line supervisors employed in manufacturing plants. During each one-week session, most participant-supervisors, except for a few who live within daily driving distance of Worthingham University, stay in a local motel and attend classes on the campus daily between the hours of 8:00 a.m. and 5:30 p.m., Monday through Thursday, and between 8:00 a.m. and 12:30 p.m. on Friday. The program is structured as four courses: (1) Principles of Economics for Business, (2) Communication Skills, (3) Principles of Business Management, and (4) Organizational Behavior and Motivation. Generally, each course meets once each day. Participants' plants sponsor them and pay their expenses. There are currently three one-week units of the program, Management Development I, II, and III, with succeeding units designed to build on and reinforce skills and information presented in the preceding unit. Program administrators recommend supervisors enroll for succeeding units at one year intervals.

The WMDP is one of three programs of Worthingham University's School of Community Education. The other two are (1)

the Evening College, credit programs for adults working toward bachelors degrees, and (2) Non-Credit Programs, short-term informal learning programs on selected topics which included interesting presentations from liberal arts disciplines as well as skills training applicable to participants' work settings.

The term 'plant' in this study denotes a manufacturing or production unit of a business firm whose purpose is to produce the goods or services which are the firm's product. In service industries, such as insurance, the 'plant' will, in fact, be an administrative office. The 'plant,' then, is the facility, and the distinct organizational administrative unit, in which the product is made or the service performed.

The study will focus on 'first-line supervisors.' While the WMDP accepts some participants who hold more advanced positions, the subjects who completed questionnaires are men and women who were supervising primarily hourly workers (Patten, 1968, p. 16; Thurley and Wirdenius, 1972, p. 18). This distinguishes them from general supervisors and other middle managers who supervise supervisors, managers, or other salaried personnel with management responsibilities. This distinction is made among participating supervisory personnel because (1) these are the principle clientele at whom the WMDP is aimed, and (2) the nature of the problems and job activities are distinct and extensively treated in the literature of organizational behavior, business journals, and industrial sociology as distinct.

There are two additional terms requiring definition, plant managers and training directors. To gather information about the plants, questionnaires were mailed to plant managers and training directors at each of the 250 plants selected for the study. A plant manager is the man or woman with overall management responsibility for a manufacturing plant. The training director is the manager in the plant with responsibility for the training of plant employees. Frequently the person with that responsibility does not have the title of training director. Managers with the title of "director of personnel" or "manager of industrial relations" is the person assigned training responsibility.

Data and Information Collection

Three methods are used to gather the data and information needed to answer the research questions: (1) mailed questionnaires, (2) personal interviews, and (3) research in program files and other public information sources.

Mailed questionnaires designed to gather data and information about plants and supervisors, then, constitute the first method. There are three questionnaires in this category: (1) the plant directors' questionnaire (PMQ), (2) the training directors' questionnaire (TDQ), and (3) the supervisors' questionnaire (SQ). The first two elicit data primarily about the plants, their training policies, and their experience with the WMDP. The supervisors' questionnaire was designed to generate

However, the plant managers' questionnaire contains questions about supervisors, and the supervisors' questionnaire includes questions about their plant's training programs.

The second data collecting method is personal interviews with administrators from Worthingham University, the School of Community Education, and the Management Development Program, as well as the WMDP faculty. Based on a general questionnaire, these interviews are intended to gain information about (1) the historical circumstances of the program's beginning, (2) the program's goals and the means chosen to realize those goals, (3) the financial, administrative, and political relationship between the WMDP and the university as a whole, (4) the dynamics and process of the WMDP's relationship with the client plants and companies, (5) the effects of these relationships on the university and the program, and (6) the ways in which the special needs of adult learners are perceived and addressed by the program and the university.

The people interviewed were: (1) the current and past deans of the School of Community Education, (2) the director and assistant director of the current WMDP, (3) members of the WMDP faculty, (4) the provost of Worthingham University, and (5) the president of Worthingham University.

A sixth source of information, originally considered, but later eliminated from the group of Worthingham interviewees, is faculty members from the regular undergraduate faculty. Two factors account for this decision. First, it was determined

early in the researcher's informal conversations that faculty members had had no involvement in the initial establishment of the program, nor had they been involved subsequently. The second reason for eliminating them had to do with current circumstances in the university and the concerns of the WMDP director and WMDP faculty members. The director expressed concern that the researcher would be asking questions of the undergraduate faculty about the program. He felt that asking undergraduate faculty members about the WMDP, about which they know little, would evoke artificial concern, and an attempt to raise questions about the propriety of such a program at a liberal arts university. The director ultimately revealed that his misgivings were based on a fear that information about the program could be misinterpreted by people who were not predisposed to understand or support the WMDP. He felt that the program was at this time vulnerable to attempts to attack it. Given his attitude and the importance of his support, it was decided that the information gained from faculty who had only observed the WMDP from a distance was not worth the risk of alienating the director and the WMDP faculty from whom essential information and endorsement was needed.

Finally, from the files of the WMDP, available data describing the program itself was gathered, as well as data describing major characteristics of the plants and the participant-supervisors. Also, from Standard and Poor's Register of Corporations descriptive data about the companies which

operate the plants studied was gathered. Listed below are background data:

Plants Data

1. Size of company (# of employees): Standard and Poor's Register of Corporations
2. Size of plant (# of employees): Plant Managers' Questionnaire (PMQ)
3. Company "Standard Industrial Classification" (SIC)[1]
4. Geographic location of plant: WMDP files
5. Specialization of training function (i.e., extent to which plant has managers with at least half-time responsibility for training, per se): Training Directors' Questionnaire (TDQ)
6. Hourly worker organization (union(s)/no union) in plant: PMQ

'Supervisors'

1. Age: WMDP files (cf. supervisors' questionnaire - SQ)
2. Sex: WMDP files (cf. SQ)
3. Year(s) in which subject participated in the WMDP: WMDP files
4. Company who sponsored supervisor: WMDP files
5. Educational attainment at time of first WMDP participation: WMDP files
6. Educational attainment, current: SQ

[1] The Standard Industrial Classification (SIC) Code is a four digit numbering system which the U.S. Department of Commerce developed to categorize goods and services produced by business and industrial organizations. The first two digits denote broad categories such as "transportation equipment" (37), "primary metals industries" (33), or "paper and allied products" (26). The third and fourth digits are used to specify progressively narrower product subgroupings.

7. Tenure as first-level supervisor: SQ

8. Job mobility (upward mobile/not upward mobile): SQ

Worthingham University

Management Development Program

1. Year established: WMDP files

2. Directors: WMDP files

3. Faculty: WMDP files

4. Pattern of participation by total volume per year: WMDP files

5. Total enrollment (undergraduate, regular; undergraduate, adult programs): university records

6. Program description: WMDP files and literature

The remainder of the data to be gathered is described in the discussion of the questionnaires.

In preparation for the study, the researcher was guided by his own experience in program administration and a statement by Poister (1978) in his discussion of a frequent policy researchers' mistake.

> "...carrying out program analyses that are strong in terms of both research and policy validity also requires a close familiarity with the operation and general context of the program under review as well as an understanding of the substantive issues of concern to decision makers (p. 27)."

In order to become more familiar with the program's context, the researcher spent three weeks attending the sessions of the program's three units as they were offered. During that time, he talked informally with the faculty and staff, but most importantly with the participating supervisors. He talked with

supervisors about their jobs and the problems they encountered, and about their reactions to the Management Development Program and its relationship to their problems and the demands of their jobs. Finally, living in the community where the university and the WMDP are located, he had the opportunity to talk with members of the faculty and administration about the WMDP and the School of Community Education even before he had considered the program as the focus of this study. These contacts have contributed much to an understanding of the program and the obstacles faced by the program's administrators and the faculty. In several instances, they have suggested items for the questionnaires which might otherwise have been overlooked.

Research Questions and Questionnaire Development

This study is designed to answer several research questions. And, the research questions are, in turn, the basis for drafting the questionnaires used in the study's surveys and individual interviews. Both the research questions, and some specific questions in questionnaires are derived from two sources: (1) the literature reviewed, and (2) the requirements of program analysis.

The literature provided the background for the research questions and questionnaire items in several ways. First, the literature suggests several generalizations about training generally, and college-based training specifically. For example, Lusterman (1977) and others suggest that larger companies and also companies in certain industries are more likely to have

their own training programs. Thus, in order to determine where the WMDP fits in the larger system of training in industry, the questionnaire is designed to obtain data needed to make the comparison.

Second, the areas of literature reviewed suggest, or specifically discuss, several major policy issues. In some cases, the issues suggested are untested assumptions. For example, the literature on training in industry suggests that the existence of full-time training managers is evidence of progress in needs assessment and evaluation (Lusterman, 1977). Researchers have found that, like volume of training activity, the existence of full-time training managers is more likely to be found in larger companies, and is more prevalent in some industries than others (Lusterman, 1977). But, none of the studies on training in industry addresses the question of what difference staffing a full-time training management position makes in the practice of the training function. Therefore, this study is designed to determine what difference the existence of full-time training managers seems to make among the plants studied in their general conduct of the training function and in their use of the WMDP.

A second issue suggested in the breach is whether companies who do training understand why they are doing it and what they are getting in return for their expenditures for training. The training literature contains articles which describe a rational model for training program design and evaluation (e.g.,

Kirkpatrick, 1978; Otto and Glaser, 1970; Patten, 1971; Prien, 1963; Taylor and Lippitt, 1975; Tracey, 1974). According to the model, one determines needs specifically, defines objectives specifically, evaluates training by comparing outcomes to objectives, and continues with only that training which meets the established objectives. The variety of conclusions reached in the literature about supervisors' actual training needs and about the outcomes of training suggest that training is not always based on precisely defined needs and that outcomes are not always clear. Whether the use of the WMDP is based on plants' specific evaluation of needs and a match between outcomes and objectives is a central question in this study. The questionnaire is designed to determine what managers objectives are and what they and the supervisors think the outcomes are. It is also designed to determine which techniques are used to determine training needs and actual training outcomes.

Apart from the indirectly suggested issues, the literature presents several issues directly. The central issue concerning supervisory training is whether training is the appropriate method to improve supervisors' performance. The literature states it is only one method, that training alone is not sufficient, and that in some cases it is inappropriate because the organizational situation in which supervisors are placed is the essential problem (Patten, 1968; Thurley and Wirdenius, 1972). The questionnaire gathers data on the range of ways

plants are currently attempting to improve supervisory performance.

The literature in higher education and adult education raises several issues about the relationship of adult education programs to colleges and universities. These include policy questions of whether adult education programs should be peripherally or centrally located in the college or university's structure (Gordon, 1980; Clark, 1968), whether they should be required to be financially self-supporting (Loring, 1980, Windham, et al., 1978; Windham, 1978; Clark, 1968), and whether adult programs are consistent with the mission of liberal arts institutions (Stoel, 1980; Votruba, 1981b; Patton, 1975; Long, 1974; Knox, 1981; Ahlgren and Boyer, 1981). This study is designed to gather information about the impact these issues have had on the WMDP in its relationship with Worthingham University.

A broader issue raised in the literature on adult education policy is whether the existing conglomeration of adult education programs is adequate to adult learning needs (Cross, 1980; Rockhill, 1979). The study, therefore, is designed to describe access criteria and participation patterns which result from the circumstances of the de facto selection process in order to determine whether the WMDP is likely to meet the training needs of all eligible supervisors.

The principles of program analysis in the field of policy research serve as the second guide in the formation of the research questions. The WMDP is evaluated according to the

criteria and process described by Poister (1978). He describes three potential focuses of program analysis: (1) needs or demands for the program, (2) the program's operations and processes, and (3) the program's impact. Needs and demands studies attempt to identify the problem to which a program is or might be an effective solution. They also attempt to describe the dynamics among variables from which researchers infer causes and derive possible solutions. In this study, two components address needs and demands: questionnaires and the review of the literature on supervisors' jobs.

Operations and process studies are concerned with such questions as the optimum structure of a program, the performance of its personnel, and the criteria used to make program decisions. All three are addressed through the survey questionnaires.

Finally, impact studies are designed to determine the outcomes, both direct and indirect, of a program. Outcome measures may include supervisors' behavior change or changes in organizations' structures and policies as a result of the program (Poister, 1978, pp. 6-8). Information from questionnaires and interviews provide a basis for these determinations.

Poister also discusses the criteria according to which programs may be evaluated. Appropriateness of the program is considered first, asking the value question: Is the program responsive to those in need of its outcomes? Considered next is whether the program is effective--does it accomplish its

intended objectives? Third, is the program economically efficient--does it accomplish its objectives with the least necessary expenditure of resources? Fourth, is it technically efficient--are internal resources organized so as to gain maximum output? Finally, is the program adequate--does it make enough difference in the conditions addressed to be termed a solution. Some of these criteria imply the question of whether the program is the best approach among the available alternatives.

This study will focus on the WMDP's operations and process and on its impact. The primary criteria used to evaluate the WMDP and its general approach to improving supervisor performance will be: (1) appropriateness in terms of whose needs are met and which determinants of supervisory performance are addressed, (2) effectiveness in terms of whether outcomes are consistent with objectives, and the degree to which objectives are clearly stated, and (3) adequacy in terms of whether it impacts on the performance of the participants.

The research questions thus derived from the review of the literature and the principles of policy analysis are as follows:

1. What are the chief variables which influence or determine involvement of the manufacturing plants and the university under study?

    - What were the original program objectives for each?
    - What are the plants' and the university's current objectives?

- What are the outcomes of the program as perceived by participants and by the administrators of both organizations? To what is program success or failure attributed?

- What variables, not related to program outcomes, affect the organizations' participation?

- How are ongoing decisions about training and development made in each plant?

  Who makes them?

  What criteria are used?

  How are the criteria defined; what measurement techniques are used?

- How are ongoing decisions about continued sponsorship of the program made at the university?

  Who makes them?

  What criteria are used?

  How are the criteria defined?

2. How do business firms and the university structure and finance their involvement in campus-based training for supervisory personnel?

   - What units make the decisions about organizational involvement?

   - How do these units relate to the rest of the organization, i.e., to whom are they accountable and are there any restrictions on their authority in this area?

   - How does the program relate to other training or education programs, and to organizational change strategies in which the organization is involved?

3. Apart from training outcomes, how has participation in the program affected the supervisors, the individual participants in the program?

4. Have changes occurred in the two types of organizations as a result of their involvement in the program?

5. How has the structure of learning opportunities for adults changed as a result of the development of this, and similar programs?

Background and development of questionnaires

The same two sources which informed the framing of the research questions contributed to the design of the study's questionnaires. They were (1) the demands of program analysis, and (2) the literature bearing on the topics of this study.

Poister (1978) describes three focuses of program analysis. They are (1) the need or demand for the program, (2) the internal operation of the program, and (3) the impact of the program on its environment. All three are incorporated into this study. They shaped the research questions, which in turn, were the basic reference for the initial drafts of the three mailed questionnaires and the interview schedule. The first focus, need or demand, is, in effect, a concern about the problems which gave rise to the program, which then is translated into program goals and objectives. The needs and demands which shape a program are not only those in the environment to which the program addresses itself directly. The needs of the institution offering the program may also be a basic motivator to initiate a new program. Questions in the PMQ, the TDQ, and the Worthingham basic interview schedule (which is referred to hereafter as the WUQ) asked about program objectives from the respondents' perspectives, and about the conditions which moved each organization to consider such a program initially. The opening questions in the SQ were intended to elicit from supervisors a description of the job conditions which are problematic to them and an identification of the types of major

changes which have made the supervisor's position more demanding.

Concerns about the program's internal operation were cast more broadly to gain descriptions of the internal processes by which plants' managers integrate their overall training programs with the WMDP. Plant managers, training directors, and supervisors were asked what other training they do, and how it is mixed with the WMDP administratively, methodologically, and proportionally. Descriptions of the internal structure and operation of the WMDP, also, were sought in the interviews with the program staff and faculty.

The impact of the program on its environment encompasses not only the direct outcomes for participating supervisors, but also secondary gains for supervisors, and changes in the organizations involved. Therefore, while supervisors, training directors, and plant managers were asked to give their judgments about the outcomes for supervisors, managers, training directors, and respondents at several levels in Worthingham's organizational structure also were asked to describe how involvement in the program has changed their organization's policies, structure and staffing.

In addition to the principles of program analysis, the reviewed literature, contributed directly to the design of questionnaire items. The written questionnaires required respondents to choose among limited alternatives in most questions. The alternatives they were given to choose among were

chosen based on the results of previous studies. For example, when asking respondents to identify what they considered to be the WMDP's outcomes, the alternatives from which they chose included all outcomes respondents to previous studies had mentioned (Walker, et al., 1956; Andrews, 1966; Powell, 1962; Pearse, 1974; Wikstrom, 1973) and those which have been named as important training needs by others (DeLong, 1977; Jerdee and Calhoon, 1977; Prien, 1963; Thurley and Wirdenius, 1972). The literature was in similar ways the basis for choosing limited choice alternative responses with regard to questions about selection criteria for supervisors and training participants (Walker, et al., 1956; Patten, 1968; Thurley and Wirdenius, 1972; Wikstrom, 1973), methods for improving supervisors' performance (Thurley and Wirdenius, 1972; Muendel, 1970; Patten, 1968; Wikstrom, 1973), methods of determining training needs (Kirkpatrick, 1978; Prien, 1963), methods of evaluating training outcomes (Kirkpatrick, 1978), and satisfying and dissatisfying aspects of the first-line supervisor's position (Patten, 1968; Thurley and Wirdenius, 1972; Rosen, 1970; Tavernier, 1976; Walker, et al., 1956; Driscoll, et al., 1978).

Testing and revision of questionnaires

The questionnaires thus developed were revised and improved in a process involving critiques by professionals and trial administrations of the instruments. A panel of three professionals trained in and actively involved in research reviewed the first draft of each of the questionnaires. After receiving

their written criticisms, the researcher talked with each to gain a fuller understanding of their objections and their suggestions for improving the questionnaires.

After this initial round of revision, the questionnaires were administered to small numbers of respondents similar to those who would eventually be asked to complete them. Fifteen supervisors' questionnaires were given to supervisors attending the Management Development Program during late June and the month of July. After they had completed their responses, five of the fifteen supervisor-participants discussed the questionnaire with the researcher. The chief concerns at that point were that the questionnaire not be too long, that the questions were clearly stated, and that the line of inquiry was consistent with participant-supervisors' experience in the WMDP. These discussions yielded several important suggestions about how best to frame the questions and what terms to use in order not to offend respondents and to avoid vagueness.

In addition to the supervisors who returned the questionnaires to the researcher personally, twenty additional participant-supervisors were asked to take the questionnaire, answer it when they returned home, and mail it to the researcher in the self-addressed envelope provided them. The response rate from these participant-supervisors was fifty percent. It was clear that even though respondents were asked only to check off answers from among listed alternatives, the original SQ was entirely too long. The final version is slightly under three

full pages, more than a seventy-five percent reduction from the original.

In the trial of the plant managers' questionnaire and the training directors' questionnaire, questionnaires were mailed to nine people holding those positions among the plants which had participated in the WMDP. The respondents were asked to complete the questionnaire and then were phoned to schedule an appointment with each to discuss the questionnaire in more detail. These trial respondents' plants were distributed among the Springfield, Dayton, and Columbus, Ohio areas. Each of the nine managers asked to respond and meet with the researcher was willing to do so. During the interviews with the respondents, in which the intent for each of the questions was explained in more detail, these men and women had several suggestions to make about (1) additional questions to ask, (2) how to introduce the study in a cover letter, and (3) items that could have well been eliminated. Following these interviews, at least one question asking about the plant managers' and training directors' philosophy regarding training and education was deleted, since it elicited an undifferentiated response which led to no significant conclusion.

The final products of this process are a PMQ and a TDQ of four pages each, and a SQ of three pages. Each requires respondents to answer limited alternative questions. The professional "judges" asked to review the questionnaires in the first step of the revision process expressed concern about the

method chosen to have people respond to several of the questions. Their suggestions differed, and the researcher was left with the choice on the items in question between asking respondents to (1) check all the alternatives that applied, (2) check their one to three most desired alternatives, (3) rank all the alternatives, or (4) rate the alternatives according to a three-or-four-point scale, or (5) some combination of (1), (3), and (4). The values in conflict were the clarity of the question, the ease with which the data produced could be analyzed, and the consistency between how respondents were asked to think about the question and how they probably thought about the content of the question as it occurred in their lives. After a discussion with a nationally known and experienced survey researcher, the researcher chose to take his advice and maximize consistency with the respondents' reality. He suggested different ways in which data so produced could be displayed and analyzed.

Copies of the final questionnaires are included in Appendix A.

Selection of Plants and Supervisors Surveyed

During its operation since 1951, the Management Development Program has attracted the participation of over 20,000 supervisors from more than 2,000 plant or office sites. It would be too costly in time and money to survey all the participants. Also, those supervisors, plant managers, and training directors who participated in the program a number of

years ago would likely be unreacheable or would be unlikely to have accurate recall of the details of activity from so long ago.

This latter problem is compounded by a turnover from year-to-year among plants who participate. According to program file evidence and current WMDP administrators' descriptions, each year, twenty or more plants from the previous year's participants do not send supervisors. And, each year, a like number of plants who were inactive the year before send supervisors. Many of these plants who drop in and out are long-term clients and can be counted on to remain active. Others drop out and never send another person. Plant managers and training directors of the former group of plants are more likely to be familiar with the program and willing to respond than those from the latter group who last participated several years ago.

A second factor, turnover among plant managers and training directors, exacerbates this problem. Current WMDP administrators who have dealt with plants for the past ten years estimate training directors change about every three years, and plant managers every five. Thus, with each year that passes since the last participation, the probability increases that potential respondents will not have had experience with the program.

These conditions suggested a smaller, more recent sample. The choice of how to pick the sample was dictated, also, by a decision about the population to which the study intends to

generalize. There are trade-offs among the alternative sampling strategies. The further back one goes in years, the more one increases his ability to generalize to the entire population of all participants during the entire history of the program. However, to do this, one must either increase the sample size, or lose confidence in the representativeness of the sample.

The decision was made to survey all the plants which participated during the previous two years (1978-79 and 1979-80). From among all the supervisors whom these plants have sent to the WMDP over the last ten years - the sample of participant-supervisors as selected. There were several reasons, in addition to those already mentioned, for this choice. First, this population totaled approximately 250 plant sites, the maximum time and finances allowed. If the same number of plants had been selected from a ten-year retrospective population, it would introduce reduced confidence in estimates of the distribution of the variables in the total population. Also, it is the researcher's judgment that, given the turnover factors previously discussed, the response rate would increasingly diminish as the sample included more subjects whose last WMDP experience was distant in time, or second hand from their predecessor. This would only aggravate the problem of generalizability.

A second reason supporting this decision is that questionnaire responses from the managers and training directors of

plants who participated ten years ago and before are of questionable comparative value to those of more recent participants. This study is a policy analysis which is designed to make statements about the current and near-term feasibility of this type of program for business firms and for colleges and universities. To the extent that previous groups of participating plants have characteristics different from the group of plants involved during the last two years, they compromise the validity of statements about the current situation.

The sample of supervisors mailed questionnaires numbered 273. This was a systematic sample (Sellitz et al, p. 523; Babbie, 1973, pp. 92-93) from among the participants sent by the 250 plants in the plant population. From a starting point randomly selected, every seventh participant-supervisor's card was selected as a questionnaire recipient.

As the questionnaires were returned, data for each subject were entered in a coding table for entry into the computer memory. For the plant managers' and training directors' questionnaires, the data for each of the 250 subjects included:

- Size of company
- Number of first-level supervisors in the plant
- Number of plant employees
- Company SIC (first two digits)
- Geographic location (state)
- Distance from WMDP site
- Specialization of training function
- Presence of labor union

Each supervisor's questionnaire card carried the following identifying data:

- Plant sponsor
- Supervisor's age at time of first WMDP attendance
- Supervisor's sex
- Supervisor's educational attainment at time of attendance
- Years as first-level supervisor

The program's representativeness can be compared with other management training programs with reference to its content, clientele, location, and time format. The content of the WMDP curriculum is similar to most management training courses. Curricular similarities include a reliance on the literatures of business management, human resource management, and organizational behavior. Instructors in the three WMDP courses which discuss management techniques and approaches all suggest that supervisors operate with McGregor's "Theory Y" assumptions, i.e., that workers want to participate, and are capable of participating in management decisions. Three of the courses offered -- interpersonal communications skills, management principles, and organizational behavior -- have been commonly found in surveys of management training program content (Lusterman, 1977; Miner, 1977; Powell, 1962; Wikstrom, 1973). The WMDP's course "economic principles" is uncommon, but it is not unique among management training courses.

The clientele of the WMDP is unique. Nowhere was the researcher able to find mention of college-based, away from the plant, residential management training for first-line supervisors. Management training programs for first-line supervisors tend to be offered by local community colleges or by external consultants at conference facilities away from the plants. These programs are either shorter in duration - e.g., one to three day workshops - or consist of locally based courses sponsored by educational institutions in which classes meet once a week over several weeks.

Distribution of Mailed Questionnaires

Questionnaires were sent in three separate mailings--the initial mailing and two follow-up mailings. The first mailing was posted during the last week of September, 1980. The second TDQ and PMQ mailings were posted November 11, 1980, while the second SQ mailing went out December 2, 1980. The third mailing for all three questionnaires was posted January 10, 1981. The first two mailings included a cover letter signed by the director of the WMDP endorsing the survey.

Questionnaire Return

The highest rate of return was received on the Training Directors Questionnaire. TDQ's were returned at a rate of 56.4% (141), PMQ's at a rate of 50.4% (126), and SQ's at a rate of 45.1% (123). At least one reply (either the TDQ or the PMQ) was received from 61.6% (154) of the plants, and 45.6% (114) plants returned both the PMQ and the TDQ.

Comparisons of respondents with total populations or samples will be discussed in Appendix B.

Procedures for Data Analysis

The data analysis is simple and direct. The first way in which data are analyzed is grouping. In most cases, variables are described into mutually exclusive or discrete categories. That is to say, with the exception of some demographic variables - such as age (interval data), educational attainment, and the number of WMDP units attended (ordinal data) - most of the data are nominal, or categorical, scale data, and consequently are subject only to grouping, and no other manipulations (Hays, 1973, pp. 82-86). For nominal data, one cannot compute statistics such as the mean or median. One can only describe the distribution of the population.

This greatly limits the statements one can make about the relationships between variables. Only the Chi square test of covariance is potentially appropriate for describing covariance between variables, either one of which is expressed in nominal scale data. The appropriate use of the Chi square test is further restricted. When the distributions of two nominal scale variables are displayed in a matrix, every cell in the matrix must predict at least five members. Few of the relationships among relevant variables in this study met this criterion. Therefore, beyond the purely descriptive displays of the distribution of data across a variable's categories, there is little that one can say that is more than suggestive about the relationships among variables.

The distribution of data for every variable was obtained. And, in cases in which the relationship between variables may have contributed to answering a research question or helped explain the distribution of a given variable, the distribution of the two data were displayed in a matrix and a Chi square was computed. As the researcher analyzed the data, he checked to determine whether the Chi square was appropriate to each case.

Limitations of the Study

The conclusions and implications of this study are intended to be generalizable to (1) manufacturing plants, (2) first-line supervisors and adult supervisory personnel, and (3) colleges and universities. The way study samples and populations have been selected, the methods of data collection and analysis, and the pattern of questionnaire response place limitations on the generalizations which can be made and the populations to which they can be legitimately applied.

Sample and Population Selection:

The methods of selecting each of the three subjects - the university and the WMDP, the plants, and the participant-supervisors - introduce separate limitations. Worthingham University and its WMDP constitute a population of one. Thus, generalizability is limited first by this singularity. No matter how the characteristics of the university and the program match others with whom they might be compared, it is statistically inappropriate to generalize the study's findings, conclusions, and implications to all other private universities and all other management training programs at such

universities. Therefore, this study's generalizations are only suggestive.

Still, the more the subjects of a study resemble large groups of their counterparts in the general population, the more incentive there is for scholars to pursue suggested questions or hypotheses, and for decision makers to employ suggested policy applications. It is, therefore, important to describe the extent to which Worthingham and the WMDP resemble other universities and other management training programs, respectively.

Worthingham University may, for the purposes of this study, be compared to the general population of colleges and universities with reference to variables which predict its vulnerability to undergraduate enrollment declines. Classified by the Carnegie Classification system among the "comprehensive colleges and universities," a group representing 7.7% of all colleges and universities, Worthingham is thereby grouped with schools which demonstrate "average to above average vulnerability" to enrollment declines (Carnegie Council on Policy Studies in Higher Education, 1980). A factor contributing to its vulnerability is its lower level of selectivity. With average freshman SAT scores of about 450 on both the verbal and math sections of the test, the university does not have flexibility which highly selective schools have to lower admissions requirements and dip deeper into the dwindling pool of potential recruits.

Other factors bolster Worthingham's ability to survive. First, it generally recruits freshmen from families in which the parents attended college, and this type of high school senior is predicted to be less likely to surrender his college plans or choose less expensive state institutions in the face of economic pressures. And, second, Worthingham is strong in the academic and professional curricula which matches well with the trend among college students to choose more directly career-related courses of study.

In summary, while the university is not totally insulated from the negative effects of a shrinking recruitment pool, they are in a competitive position. Generalizations, therefore, are appropriate to the private institutions in relatively secure, but not invulnerable, positions.

While Worthingham University's and the WMDP's places with reference to private universities and management training programs can be defined, the lack of general data about manufacturing plants and about first-line supervisors *per se* makes it difficult to state how the plants and supervisors surveyed in this study compare to other plants and supervisors. No data separately categorized for first-line supervisors exists. Thus, the participant-supervisors can only be compared in terms of the plants in which they worked.

Only two categories of data used for categorizing plants in this study is available for manufacturing plants in general: geographic location and type of industry by SIC code number.

Eighty percent of the plants surveyed in this study are located in nine contiguous north central states--Ohio, Pennsylvania, Indiana, Illinois, West Virginia, Michigan, New York, Tennessee, and Kentucky--obviously over-representing this area when compared to all plants in this country. And, with reference to the type of industry, certain large categories of industries are over-represented when compared to the distribution of types of industry in these states. The proportion of "continuous process" industries (e.g., chemical manufacturing, plastics manufacturing, and petroleum refining) in this study is 2.5 times as great as the overall distribution in these states; this study's proportion of "high technology" industry (e.g., electronics device manufacturers) is 1.5 times the overall figure; and the distribution of "heavy industry" (e.g., primary metals, and auto manufacturers) in this study's plants is weighted by 1.3 compared to all plants in the nine primary states covered by the study (U.S. Department of Commerce, 1981).

Thus, the application of the results of this study is appropriately limited to a group of colleges and universities comprising one thirteenth of all colleges and universities in the United States, to management training programs for lower level managers, and to manufacturing plants in the north central United States, especially those in the continuous process, high technology, and heavy industrial sectors of this region's manufacturing plants.

Methods of Collecting Data:

The choice of data collection methods were made to optimize the quantity and quality of data. The circumstances of the study dictated certain compromises. In order to gain the maximum rate of questionnaire return, the questionnaires were made as brief as possible and were designed to minimize the time and deliberation demanded of respondents. This accounts for choosing the limited alternative form of question rather than open-ended essay-type questions. A major advantage of this type of question is that it elicits survey data which can be easily compared from one respondent to another. But, it places a limitation on the study insofar as significant alternative answers which respondents might offer in answer to open ended questions will be lost if they are not among the available alternatives. The researcher must rely on previous studies, logic, prior conceptualization of the behavior under study, and undocumented insights and intuitions as the basis for the alternative answers offered to potential respondents. It is possible, therefore, that respondents may have answered questions differently if they had been given no alternatives from which to choose.

This is perhaps most costly when respondents were asked to identify their objectives for training and the outcomes of training. First, respondents are virtually forced to name some objectives and outcomes when in fact they may have sponsored participants or become participants with no objectives in mind.

When given alternatives, respondents are also more likely to introduce inaccuracy into their response by answering the way they think they should rather than the way they actually think or feel about the question. Providing answers from which respondents choose also assumes that respondents interpret the provided alternatives as they were intended.

Apart from the biases potentially introduced by format, there are the limitations of survey methods, especially those asking about past events. Inaccuracies may be introduced as a result of respondents' inability to remember the events or the tendency of some to adjust their perceptions in retrospect to yield a more favorable or currently more popular account of what actually happened. Certain types of biases are revealed in selected questions. For example, when all groups (training directors, plant managers, and participant-supervisors) were asked if training results were supported once trainees returned to their plants, there were noticeable differences in each group's answers. In the survey method of research, there is no means to determine what the actual behavior is. One can only report respondents' perceptions or opinions.

The fact that surveys elicit only post hoc descriptions based on recall limits the researcher in determining causal relationships between variables. In this study, participant-supervisors were asked if learning activities in which they participated after attending the WMDP were as a result of their participation in the program. Respondents to the TDQ and

the PMQ were asked to identify changes in their plants as a result of their involvementin the WMDP. The answers to such questions can only be suggestive. The researcher cannot eliminate the possibility that affirmative answers to this type of question are biased by the desire to please the researcher or administrators of the WMDP. Also, the answers of many respondents, even those who are evaluating their own behavior, may be speculation, out of the realm of certain knowledge.

Finally, using the survey method limits the researcher's ability to make definitive conclusions because it does not allow, especially in this case, the opportunity to compare outcomes for participant-supervisors and participating plants, with a control group of very similar counterparts who did not receive the treatment of the WMDP.

As a result of the limitations of this study's methodology, its value is limited. Rather than providing conclusive answers to questions about relationships among variables, and in some cases about the descriptions of how training is used or conducted, the study suggests questions and hypotheses which may be studied further. In this sense it is exploratory.

The survey method is also vulnerable to non-responses on important questions from respondents. In this study non-responses and partial responses resulted in a lack of reliable data about how, and at what level plants financed training. Over 90% of the respondents did not answer the questions asking for specific data on budgeting and expenditures for training.

And, among those who answered the questions, answers were incomplete or incorrectly reported.

CHAPTER IV

PRESENTATION OF FINDINGS

The presentation of findings for this study is divided into two sections. The first discusses the unit of analysis of the study: the plants, the supervisor-participants sample, and the WMDP. In this section, the units of analysis under study and the variables on which the respondents to the questionnaire differ from the total groups to whom questionnaires were sent are described. The second section presents data from the questionnaires and interviews applied to the research questions.

Description of Subjects

The subjects of this study are: (1) Worthingham University and the Worthingham Management Development Program (WMDP), (2) the manufacturing or processing plants which use the WMDP, the "plants," and (3) the first-level supervisors from those plants who have participated in the WMDP, the participant-supervisors. The descriptions of the plants and the participant-supervisors in this section are summaries of the data collected from questionnaire responses and from program file information. A more detailed description of the plants and the participant-supervisors is contained in Appendix B.

Worthingham University and the WMDP

The first unit analyzed in this study is Worthingham University and the Worthingham Management Development Program

(WMDP) itself. Its description is primarily an historical narrative which will help the reader develop a context for better understanding later descriptions of its relationship to the university, the plants whose supervisors it trains, and the supervisors themselves.

The WMDP is one of three component programs in the university's School of Community Education, but the other two, Non-Credit Programs and Evening College, a credit toward degree program, have always been regarded as second-order priorities. The WMDP's long-standing autonomy and its preeminent role in the School of Community Education can be attributed to the circumstances in which it was founded and to the initiative of its first director.

At the beginning, three people together designed and implemented the program. The man who was to become the first dean of the School of Community Education, the university's president, and a local industrial executive. The executive and president worked together often on matters of mutual interest to the city and the university. In 1950, each faced a difficult institutional problem. The university's enrollments were down after the influx of GI Bill adult students began to wane. Faculty layoffs were an eminent consequence.

In industry, labor unions had come into their own. Often, first-line supervisors managed workers whose wages exceeded theirs. For many, this made the pressures between meeting managements' production expectations and workers demands unacceptable. There was much talk about forming supervisor's

unions to deal with these conditions. Whether the local executive thought of the WMDP as a means of thwarting this incipient involvement by strengthening supervisors' commitment to the "management team" is a matter of disagreement among those whose recollections are the bases for this section. But, the first director and the current director agree that he did at least recognize that supervisors' roles were becoming more difficult and that they needed added resources to perform at the desired level.

The concept, then, arose informally as the two men discussed their institutional concerns. They enlisted the help of other businessmen and the chairman of the economics department, who later became the first director, to form an advisory committee to draw up the initial proposal which was prepared in the spring of 1951. The directorship fell to the economics chairman, according to his account and that of Worthingham's current president, because he was active and well known in the business community and thoroughly familiar with the program's intent. Those interviewed for this study agree that, at the outset, most of those involved, inside and outside the university, saw it as a temporary project to meet a local need. The first director still notes that, during the program's first two years, the school's faculty predicted the WMDP's early demise. While this attitude won the program no supporters among the faculty, it did cool potential opposition as it made it appear as though active opposition was not necessary. As a net result,

the program became the director's individual entrepreneurial endeavor.

The content of the program has always reflected the behavioral sciences' usual management education--organization behavior, principles of management, and communications. Its course in economic principles is unusual for so short a program, and it has been a distinguishing feature of the WMDP from its start. The first director recalls that the local executive strongly supported or insisted on its inclusion.

The WMDP is presented in week long units. In each week long unit, participant-supervisors attend sessions of each of the four courses each day. The WMDP offers plants three units of the basic WMDP course - Unit I, Unit II, and Unit III. Each is designed to build on and advance beyond the content covered in the previous unit. It is recommended that participant-supervisors progressing to Units II and III wait one year before enrolling in the next.

Program funding arrangements are an important part of the WMDP's history. With initial "start up" financial support from firms belonging to the local Chamber of Commerce, the program was soon established within a budgetary process unlike any other in the university. During all but the last two of his entire 25 years with WMDP, the first-director states that he reported directly to the president his budget projections for coming years and his accounting for completed years, despite the absence of an external audit. Soon it was accepted that the

WMDP was a net fiscal gain to the university, contributing a substantial amount to the general fund annually.

The director of the WMDP became, within a few years, the dean of the School of Community Education (SCE), as he took responsibility for the Evening College and Non-Credit Programs. Until his retirement, he remained, as well, the director of the WMDP.

The current staffing pattern is only four years old and provides for the dean of the School of Community Education to whom the WMDP director and the director of the Evening College report. The dean handles Non-Credit Programs.

Within the WMDP, the assistant director, whose job is to recruit plants to send supervisor participants, reports to the director. The four faculty members - one each for communications, organizational behavior, management principles, and economics - also report to the director. All are currently tenured. The current director states that decision-making is essentially collegial among the director and the faculty under the new regime.

In 1978-79 (the last year of the former dean's tenure) and 1979-80, reports began to be channeled through the university's provost - not directly to the president. Budget autonomy was eliminated and the budgeting formula revised when the first dean's successor assumed his position. The new budgeting formula reversed the long-held position.

The program will be described in further detail in the context of the research questions.

The Plants

Several generalizations can be made about the population of plants surveyed and the population they are drawn from. The profile data summarized in this section is described in greater detail in Appendix B. The companies they represent are more likely to be either very small or very large firms. The plants are heavily concentrated in this country's traditional industries representing heavy manufacturing, chemical processing, and petroleum refining. While the WMDP draws participants from plants located as far away as the west coast, the preponderance of involved plants' sites are within an area between 100 to 500 miles from the program site.

The two plant questionnaires were most often answered by managers of some aspect of the personnel function. In fact, slightly over half of the PMQ's were completed by this group of managers rather than line managers with responsibilities more directly related to production.

Participation rates among plants is uneven. By far the greatest number of plants sent a small number of participants over the last decade and participated during only two or three years. A small group of large firms provide a disproportionate share of the total participants and participate consistently year after year. About one-fifth of the participants over the previous ten years have been supervisors returning for Units II or III after completing Unit I.

The size of plants using the WMDP is distributed in a pattern approximating a normal distribution with a moderate skew toward the larger plants. Participating plants tend to have between 21 and 30 supervisors, although there is a wide range. And, in about thirty percent of the plants using the program, the hourly workers are organized.

The Participant-Supervisors

Several generalizations apply to the participant-supervisors surveyed. By far the largest proportion of participants are sponsored by the largest companies. The sample is so heavily weighted in two SIC categories, heavy industry and continuous process industries, that it can be said to represent only these categories on questions where type of industry is a determining variable. On this variable, then, the participant sample is more concentrated than the plant population from which it is drawn.

With reference to volume of participation per plant, the supervisor sample is skewed like the plant sample toward the end of the scale representing plants who sent only a few participants during the last two years, but it is less skewed than the plant population. These are the only variables on which the plant population and participants sample can be compared.

Most participants among all 273 surveyed first attended the WMDP when they were between 25 and 29, but those who returned the respondents questionnaires are somewhat over-representative of those forty years or older. Not surprisingly, a greater proportion of the participant sample worked in plants with

larger numbers of first-line supervisors. The sample and responses distributions are heavily concentrated among those who first participated recently, especially the last two years. And, most supervisors in the sample have attended only Unit I, although among respondents, a slightly greater proportion have gone beyond the first unit.

The total group surveyed and the respondent group are similarly distributed with regard to educational attainment based on the data given at their initial contact with the WMDP. Responses to the SQ indicate over 90% have at least a high school diploma. Respondents' median tenure as first-line supervisors is about six years. Only about thirty-five percent have moved to a higher management level since the program.

The respondents appear to be a cross section of the composite profile given in the literature about the supervisor's position. Above all, they are goal-oriented and seem to be motivated by the pressure of meeting high production goals in the face of technical and personnel problems. At the same time, they express a frustration or, at least strong dissatisfaction, with the constraints and obstacles of government regulations, labor grievances, and the ambiguous status of lowest level manager.

They find themselves in a position which has changed and become more demanding primarily as a result of new worker attitudes toward authority and work, on the one side, and expectations for new management approaches, on the other. They are, by their own description, men and women in the middle.

Analysis of Subjects' Responses

The previous section of this chapter described the subjects of the study. This section's purpose is to present subjects' questionnaire and interview responses as they relate to the research questions stated in Chapter III.

Original Objectives for Worthingham University

Information about the original objectives for the university's establishment of the WMDP are constructed primarily from secondhand accounts since the programs' initial director is the only participant still available for interviewing. Accounts given in campus interviews and Business Week's (1951) feature story about the WMDP describe the establishment of the program as the solution to a pressing problem.

The university was faced with a financial crisis resulting from declining enrollments. Worthingham had benefited from the influx of GI Bill enrollers, but this source began to run out by the early 1950's. According to the current university provost, the school's youth-age recruitment pool was, at that time, concentrated within a fifty mile radius of the campus. The original and current directors state that the WMDP was a means for the university to generate much needed income, create work for otherwise redundant faculty members, and at the same time provide training for which local manufacturing executives expressed a need.

Current Objectives for Worthingham University

The study sought information on two types of current objectives: WMDP programmatic objectives and Worthingham University institutional objectives. To assess current programmatic objectives, the present faculty, the Director and Assistant Director, and the past and present deans, rated the same set of objectives rated by plant respondents. Four objectives mentioned by more than fifty percent of respondents to the PMQ's and TDQ's gained consensus as "very important" among this group: (1) "build a managerial style better suited to today's worker;" (2) "improve leadership skills;" (3) "increase problem solving ability;" and (4) "gain management perspective." In this there is agreement between WMDP administrators and the managers who send participants. But, two objectives which administrators thought "very important," plant respondents regarded as "of very little importance:" (1) "reward or vote of confidence," and (2) "an opportunity to think about job away from the plant."

The university's president and provost were interviewed to obtain their view of WMDP program objectives from an institutional perspective. They describe the WMDP's role as only an indirect contributor to the essential liberal arts mission of the school. Specifically, they cite the revenue the WMDP generates for the general fund, and contacts it affords with potential supporters, as specific ways the WMDP contributes to the university's fulfilling its mission.

Both men expressed the desire that the WMDP reflect more liberal arts influence in its program content and teaching approach, to bring it into closer harmony with the school's mission. But, they also acknowledge that the WMDP's surplus funds generated for the rest of the university in its good fiscal years guarantee it a place in Worthingham's plans for the foreseeable future.

The Decision Making Processes

The nature of the decision making process by which decisions about whether to continue to sponsor the WMDP, and about how the program will be run, may be a major determinant of the WMDP's success to date. Thus, in addressing the question of whether there is a basis for college-based management training--that is, whether the success of the WMDP is replicable--it is essential that one describes how important policy decisions are made. The researcher wants to know who makes which decisions; what are the criteria they use; and what are the results of different approaches to the decision making process. Answering these questions about the WMDP provides a basis for suggesting which types of decision-making processes might produce success with college-based management training programs on other campuses.

The reason that the nature of the decision making process is considered especially important to determining the success of the WMDP and other adult education programs set in the college or university has to do with the fact that adult education programs are usually fundamentally different from

the other educational programs the institution sponsors. Therefore, administrators of the adult education program, as well as the administrators of the college or university, use the process established to cope with organizational conflicts which result from these differences. To help explain the significance of the decision making process for the WMDP in Worthingham University, these basic program differences and their consequences are discussed next.

The WMDP differs from Worthingham University in five characteristics which can produce intra-organizational conflict: (1) student characteristics, (2) faculty characteristics, (3) program content, (4) program finance, and (5) program goals and mission.

Student Characteristics

Few WMDP students, especially the older students, would meet the university's admissions requirements. In the first two decades of the program, first-line supervisors were almost exclusively recruited from the ranks of hourly workers (Patten, 1968). Since first-line supervisors tended to be older then than now, it is more likely that many had not completed their high school diploma requirements and many who had did not meet the course distribution and grade average requirements for admissions. This is verified from the WMDP's student participant-supervisor profile records discussed in Appendix B.

Aside from concerns about admissions requirements, the program's instructors who have also taught traditional 18-22

year old undergraduates verify that adult students are different from these younger students in other ways. On the one hand, participating supervisors who are often not conditioned to the "student role" may be more easily intimidated by tests than younger students and more easily intimidated by the college setting. WMDP instructors interviewed reported that some express their discomfort by becoming passive, while others become combative and test the instructor's knowledge of management conditions in the "real world." On the other hand, even those participants who are not anxious about the situation are likely to challenge general statements which do not square with their experience as supervisors. A significant portion of every class, WMDP faculty report, takes a "show me" attitude toward the instructor.

Each faculty person also stated that participants require a significant amount of variety and activity during each day. On the job, they are habitually assertive and decisive. Job conditions also yield relatively short attention spans and a desire to reach definite conclusions quickly. These tendencies are at odds with patient scholarly deliberations, extended arguments, and contingency-laden conclusions characteristic of academic coursework. The WMDP instructor must temper supervisors' impatience and encourage an atmosphere of open-minded inquiry without frustrating their natural inclinations to assert themselves.

Another contrast between WMDP and traditional college students is the diversity of learning ability levels found in each class. In one room, there is frequently a range in participants' educational attainment from less than a high school diploma to a bachelor's degree in engineering. Interviewees stated participants with less education prefer very detailed explanation by specific example, while those with college degrees are far more comfortable with abstract reasoning.

Faculty Characteristics

These several student characteristics result in a demand for certain faculty characteristics which liberal arts faculty often have not developed. According to the WMDP's current and past directors, some period of direct experience as a manager in business has proven in practice to be an almost necessary condition to establishing credibility with program participants. Attempts during the WMDP's first three years to use regular full-time academic faculty to teach in the WMDP on a part-time basis proved to be a "disaster" according to the current WMDP director. Since then, WMDP faculty have been recruited independently.

Consequently, the WMDP faculty differ in several ways from the "regular" undergraduate faculty. They are not oriented toward research and publication. Their level of academic attainment does not include graduate degrees as consistently as among the regular faculty. More importantly, their positions

require different activities. Beyond classroom teaching, they are encouraged to visit participating plants. They do not serve on faculty committees nor engage in university governance and policy making, and they do not tend to interact with members of the undergraduate faculty.

Program Content

In a third area, program content, the WMDP distinguishes itself from regular academic programs. While the content for the four WMDP courses, like the content of many undergraduate courses, is drawn from the research and literature in the fields of economics, interpersonal communications, human relations and organizational behavior, and business management, the WMDP curriculum differs in many important respects.

The relatively brief duration of the program results in a different treatment of the subject matter. Instructors do not describe the development of different theoretical perspectives and generally do not fit concepts within the contexts of broad theory or comprehensive models. Generally, they take the findings and interpretations of research and apply them to the types of situations first-line supervisors face. They aim criticism of concepts and models at the practical level rather than discussing methodology and the logic of the conceptual relationships.

The WMDP courses differ also with reference to students' work requirements and the evaluation of their learning. Instructors recommend readings and reference sources, but they

do not require participants to purchase texts, nor do they assign readings. Instructors administer no formal tests to be individually evaluated. At the conclusion of WMDP Unit II, participants answer a forty question quiz, which they keep in hand. The entire group together discusses the correct answers, and only each individual knows his own score.

The final difference between the WMDP curriculum and the university's regular curriculum is that all work is done in groups. There are no individual assignments. Course effectiveness depends upon whether supervisors actually change their job behavior when they return to their plants, not on whether they can demonstrate retention of facts and ideas.

Program Finance

WMDP program finance and Worthingham University's undergraduate program finance differ chiefly in terms of the relationship with the client from whom revenues are drawn and the cash flow cycle of revenues. The relationship the WMDP has with its clients is relatively simple and, most importantly, totally separate from the rest of the university community. The WMDP contracts with the participant-supervisor's employer for a few well-defined services over a short period. The university in its dealings with its undergraduate students contracts with the student and his or her family for many quite diverse, and initially unspecified, services involving many staff people over as many as four or five years. The WMDP client interacts

with none of the same people the undergraduate client deals with.

The WMDP's weekly cash flow cycle contrasts sharply with the semester by semester cycle for the undergraduate academic programs. Therefore, the WMDP's bookkeeping and money handling routine and timetable is thoroughly different from the administration of the undergraduate academic programs. None of the WMDP services are paid for with third party financial aid or through any type of installment plans.

Given these differences in contractual relationships and cash flow cycles, the WMDP administers its own billing and collections. Its financial management procedures join the university's when it deposits it revenues after its contract with its clients has been completed.

The Relationship Between the WMDP's Goals and the University's Goals and Mission

The president and the provost were both asked where the WMDP fits into the mission and goals of the university. The provost acknowledged that the university depends on the income generated by the Management Development Program, and the president described an ongoing public relations role among potential contributors in large corporations. Still, these two men talked about the WMDP's role within the university primarily in terms of (1) its fit with the liberal arts mission of the school, and (2) its potential function in avoiding faculty layoffs.

Both expressed a strong commitment to the university's role as an undergraduate liberal arts institution. They acknowledged the possibility of some decline in undergraduate enrollments within the next three to five years, but do not treat it as a foregone conclusion, and do not look to adult students as a feasible solution to the problem of enrollment declines in traditional students, should they occur. The president and the provost, when they talked about "adult students," referred specifically to degree-seeking adults, not first-line supervisors. Moreover, the provost expressed the view that any adults seeking a bachelor's degree see it as a means to vocational ends, apparently in contrast to traditional age, liberal arts students. And, he asserted, it is the university's mission to provide a non-vocationally oriented liberal arts education. The president stated that the administrators of other liberal arts colleges in the state have expressed the view that Worthingham has "dirtied its linen" by sponsoring the WMDP.

In their separate interviews, both he and the president talked about the WMDP's need to reflect more of a liberal arts orientation. More attention to the theory behind new management styles and increased attention to value and life style questions beyond the workplace are examples they gave of how this orientation could be achieved. The president, however, expressed the perception that the current client plants would prefer that the program stay as is.

The current dean of the School of Community Education, the current WMDP director, and their predecessor were also questioned about how the WMDP's goals fit with Worthingham University's goal and mission. The initial director of the WMDP dealt with the question straightforwardly. "The WMDP doesn't fit with the liberal arts mission of the university, and there is no reason it should," was his reply.

The current director and dean also recognize the relationship with the university as defined by the president and the provost. They were asked specifically to indicate the benefits the WMDP presents to the university and to indicate the problems it causes. Both checked three benefits: "community public image," "relationships with the university's supporters or potential benefactors," and "revenue." These were also the benefits named by the president and provost. As difficulties, they both named "inconsistency with the university's mission and goals." The dean and director do not contest the issue in the sense that they accept the position that the WMDP is not a liberal arts program.

Design of Decision-Making Process to Cope With These Problems

Two types of decision-making processes can be established to cope with the differences described. The founders of adult education programs can try to work within established channels and seek to improve the awareness and change the values parties to that process use. Or founders can set up separate structures to handle the special demands of adult education programs. The

founders of the WMDP set up separate and largely autonomous structures. Recently some changes have been made to bring the WMDP into the regular administrative decision-making process. The campus interviews provided information describing the initial process and the changes recently made.

The descriptions of the first twenty-eight years of the WMDP's operation confirm that its chief administrator operated the program with a great degree of autonomy. On the organizational chart, he was responsible directly to the university's president. The university's other units--academic departments, student services, buildings and grounds, etc.--were responsible to the president only through another administrator, the provost. In the case of all other instructional programs, the provost was, and is, the intermediate administrator. In the case of all other instructional programs, the provost was, and is, the intermediate administrator, and he is assisted by other offices such as the comptroller's, and by faculty committees in making decisions about budget and course content questions, respectively. The Worthingham Management Development Program and the School of Community Education were outside this structure for the WMDP's first twenty-eight years.

The first dean, in his interview, stated that his opportunity to run the program outside the regular structures was more than a convenience. He stated that it enabled the WMDP to be established and to develop a record of programmatic and fiscal success without having to engage in policy debates over

course content, faculty qualifications, or the consistency of between WMDP goals and the overall goals and mission of the university.

Campus interviewees mentioned three factors by which they explain how the WMDP's early autonomy was achieved. The original dean credits faculty scepticism about the program's potential as one important factor. He states there was some faculty opposition to offering such a program, but he says there was never a concerted organized opposition because those who voiced opposition predicted the program would last no more than a year or two anyway.

The provost attributes the ability of the WMDP to operate with autonomy, and without opposition, to the fact that in the early 1950's, for most of the university's faculty and administration, the university's mission was not yet clear. He states that during that period, Worthingham sponsored several programs in which adult students enrolled at Worthingham under the G.I. Bill. In addition, the university had at this time recently acquired two proprietary schools--in music and business--which were to become the basis for some of the university's current professional programs. Involvement with these "practical" programs mitigated Worthingham's claim to a pure liberal arts identity.

Finally, the president, as well as the provost, and the current director noted in their interviews that in the 1950's, the university had a more keenly felt obligation to serve the

local community. They attribute this attitude largely to the fact that a much greater proportion of the students of that era were local residents. The WMDP provided an opportunity for such service.

Having established this autonomy, the initial director exercised it in dealing with decisions about faculty, program content, and the budgetary process. Initially, the faculty were joint appointments to business or economics and the WMDP. But, according to the current director, who was involved as an instructor in the WMDP's early years, these instructors were ineffective because they failed to relate to the practical experience of the participant-supervisors. From then on, prior working experience in business management became a selection prerequisite for prospective WMDP faculty.

Curriculum has been set within the WMDP with no outside influence from the university's curriculum committees. Curriculum changes have been made indirectly. Existing faculty absorbed, or new faculty brought with them, new content and approaches from management and applied behavioral science as the prevailing schools of thought in each discipline shifted.

The WMDP budgetary process, until recent policy changes were made, has stood in great contrast with the way budget management has been handled in the rest of the university. Interviews with the initial program director, the university's president, and the provost elicited a consistent description of the long-standing WMDP budgetary process as it was originally

arranged. The original director determined his budget and submitted it to the president directly. According to his own report, he decided upon the formula for determining how much of his revenues would be given to the general fund, a policy question not open to any consideration by any other unit. All other units that generate their own revenues, contribute them to the general fund from which they are allocated an annual budget amount defined by line item. (Academic departments do not generate revenues for their courses alone. Tuition is not earmarked by department, but is a general fee.)

According to his formula, the original dean relates he contributed revenues to the general fund according to a formula yielding a product equal to the same fraction of total full-time equivalent students. He states that the WMDP thereby made a large net contribution to the university each year.

Recent Changes in the Decision Making Process

The near total autonomy enjoyed by the WMDP under its original director has been reduced in recent years. After their predecessors had allowed the WMDP twenty-eight years of near total autonomy, the school's current administration took the occasion of the initial director's retirement in the summer of 1979 to effect basic changes in the program's relationship with the university. The original director stated that two years earlier, the new president directed the WMDP director to submit his budget to the provost, as all other university administrative units did. Further changes in the budgetary process were not made until after the director's retirement in 1979.

The new dean of the School of Community Education assumed his position in July of 1979. As he began to prepare his first budget, the new dean, as he relates the events, was informed by the provost that the formula by which the community education budget (including the WMDP budget) related to the university's general budget had been changed. It is the new dean's understanding that this decision was made by the president, the controller, and the provost. This resulted in a reinterpretation of the relationships' fiscal balance. The former dean figured his contribution to overhead using a formula in which he calculated his FTE, computed the percentage of total FTE it represented (15%) and assessed his budget 15% of total tuition. The new budget formula charged the Community Education budget 67% of its total salaries as overhead. A 1978-1979 surplus of about $100,000 was recomputed to be a deficit of $40,000, and a projected deficit of over $100,000 for the 1979-1980 fiscal year was announced to the new dean.

Yet, apart from these internal reorganizations, little about the WMDP as presented to plants and supervisors has changed. Seven constant policy decision areas concerning the program are:

- Industrial areas and firms to be recruited
- Criteria for staff recruitment and staff development
- Structure of WMDP staff with relation to the two other Community Education program areas - Non-Credit and Evening College
- Relationships with client firms

- Locations where the program is offered
- Budget structure
- Authority structure, chain of command

Only the last two have been changed, without effecting program content to date. Where formerly the Dean of the Community Education's programs reported directly to the president, he now reports to the provost. The provost approves only the total budget; he does not have line by line authority. Within the WMDP, the director has virtual autonomy with reference to program goals and objectives, courses offered, course content (for which he gives faculty much freedom), teaching methods, and administrative rules and procedures including fees charged to participants. The new budget formula, however, is likely to force changes because the program no longer can afford year-to-year enrollment fluctuations keyed to economic conditions in traditional industries.

The contrast between the WMDP's goals and the university's liberal arts mission has not been addressed in any specific decisions.

Indirect Outcomes Influencing University Adult Programming

Indirect outcomes resulting from the university's involvement in the WMDP have had little impact on Worthingham University's educational policies and practices beyond the boundaries of the WMDP. Several questions posed during interviews with WMDP administrators and the university president and provost provide information about the WMDP's impact on the campus as a whole.

The university's president and provost, as well as the past and present deans of the School of Community Education, and the present WMDP director all responded to the questions about the benefits the program had afforded the university and the difficulties it has caused. There was absolute agreement about the benefits. Respondents named three. By far, the most important according to all four of those interviewed, was the revenue the WMDP generates. Regardless of the budget formula applied to the program, all agree that the university relies on the WMDP income. The construction of a Lifelong Learning Center on campus is a closely related benefit cited by everyone. The Center is related also to the second benefit mentioned by the administrators interviewed, the creation and maintenance of favorable relationships with executives in business and industry. The president, who focusses a large portion of his time on generating resources for the university, states that when he visits the presidents and board chairmen of corporations around the country, he frequently finds the WMDP is their most direct link with the university. In this sense, the WMDP serves a purpose similar to that which successful athletic teams serve for many colleges and universities: it provides ready and positive recognition among potential supporters of their programs.

The third benefit cited in the campus interviews is the WMDP's function, chiefly in past years, as providing a place to

accomodate surplus faculty during times of reduced enrollments. This was one of the initial reasons for establishing the program in 1951.

The fourth and final benefit cited is the Management Development Program's role as the financial vehicle on which the School of Community Education's other two programs, the Evening College and Non-Credit Programs, have ridden for many years. Neither of these programs have been self-sustaining, and have generally operated at a financial loss. But, their continuation has not been questioned seriously because their role was small and the revenues from the WMDP more than compensated for the deficits they created.

While the WMDP has provided these benefits to the university, it has also presented some difficulties, especially in the minds of the president and the provost. Their chief concern is the apparent conflict between the liberal arts mission of the university and the pragmatic, job-oriented nature of the WMDP. The president remarks that his colleagues from other colleges question the existence of such a non-academic program on his campus. And, the provost remarked that he does not see how one can "get from the university's goals and mission statement to the WMDP."

The former dean, the present dean, and the present director agree that the chief difficulty the program presents to the university is its inconsistency with the overall mission of the university. The former dean, however, takes the position that,

while there is a definite inconsistency, there is no need to resolve it. Interestingly, with the exception of the president's specific reference to colleagial criticism, none of the campus interviewees explained why this inconsistency was a conflict in any more than an abstract sense. The very tangible problem of faculty resistance which arises on some campuses supporting adult programs is not a problem at the university. Some faculty members raise the question about mission, but they also understand the program to be a "money-maker" and accept it on those terms. In addition, several prominent faculty are active in the School of Community Education's non-credit programs, and insofar as the WMDP helps underwrite these efforts, which are not otherwise self-supporting, these faculty regard the program as necessary.

The university interviewees also responded to direct questions about the impact the WMDP has had on aspects of the university's policies and practices. There seem to be none of great significance. To be sure, for years the selection criteria for WMDP faculty have been different from those of the academic faculty, but these differences have remained isolated to this program. Other program differences, such as the long-standing budgeting independence, have now been altered and brought under the control of the administrative center where other university decisions are focused. Nor has the presence of adult students on campus for three decades led to different admissions criteria or an increase in the adult

population. The non-credit programs remain primarily as means for adults of moderate to higher incomes to participate in informal, liberal arts based courses.

Plants Original Objectives for Using the WMDP

To determine whether there is a basis for establishing college-based management development programs, this study also looked at the way manufacturing plants have used the WMDP, the results managers and supervisors in those plants perceive, and the units in the management structure of these plants. Assuming that the WMDP is a successful college-based management training program, the researcher in this section is trying to generate information which identifies what factors from the users, or consumers, perspective account for this success. The findings presented are drawn from responses to the three mailed questionnaires: the Plant Managers Questionnaire (PMQ), the Training Directors Questionnaire (TDQ), and the Supervisors Questionnaire (SQ).

If one assumes decisions about plants using the WMDP are made according to a rational model, the most obvious factors to examine to explain program success are the program objectives and the intended outcomes the program produces. In this case, there are two types of objectives. There are those which motivated the establishment of the program, and there are the ongoing objectives which are not related to the historical events in which the WMDP was initiated.

The original plants involved were all located in the city where Worthingham's campus is located. The idea for the WMDP began with only one man, a local manufacturilng executive. He and Worthington's president were personal friends, and they worked together on local civic projects.

The manufacturer's stated purpose for supporting the first program was to assist the college financially while getting some training in return (Business Week, 1951). But, the current WMDP director, who was then an instructor in the program, suggests the objectives for the training were very likely two-fold. The post-war years saw the coming to age of American labor unions. After the wartime period of restraint unions, sought to make compensatory advances in wages and work rules. Thus, the first-line supervisors' jobs, always difficult, became more so. But, added to the increased demand on their managerial and labor relations skills was a perceived wage inequity. Hourly workers' bargaining agreement had produced situations in which supervisees were earning more than supervisors. The result was a movement to develop supervisors' unions (Patten, 1968). The current director suggests that the manufacturer who worked with Worthington's president saw the WMDP, at least in part, as a means of strengthening his first-line supervisors' identification with management, thereby counteracting the possibility that they might form a supervisors' union in his company. For the first manufacturers, then, the objectives may be said to include (1) providing the university some financial assistance, (2) providing

their first-line supervisors some necessary training, and (3) encouraging in those supervisors a greater identification with their companies' management.

Over the course of three decades, the university's need for special help subsided and the impetus of the supervisory union movement died. Accordingly, managers from plants who sent participants during the two years studied indicated they first participated to meet their training needs, not to assist the university or because they were persuaded by university personnel. To a multiple alternative question on the PMQ, three of five respondents indicated they decided on the WMDP because it "simply met our needs better than other [programs]." The "campus location" was the next most often checked response (33%). The answers "as a means of helping the university" and at "the persuasion of university representatives," were mentioned by less than ten percent of the respondents. Those answering were free to check as many of the responses as applied.

In the TDQ, the reasons for contracting with outside sources generally was explored. Among the alternative responses given to choose from, respondents most often-named size as an important reason (46%) or of some influence (20%). In the cross-tabulations, this was found to have been related to whether the plant had a training manager. Those who did not were more inclined to seek outside training resources regardless of size. The other often named reason for using outside

resources was to supplement in-house programs. Thirty-six percent said it was an "important reason" and another thirty-five percent said it was "some influence."

In summary, managers in the recently participating plants said they seek outside sources when their resources have been fully extended. They say they use the WMDP because it best meets their needs.

Current Objectives: Plants

In addition to plants' reasons for deciding to use the WMDP, the specific objectives managers intended to accomplish with their first-line supervisors through the WMDP were investigated in this study. Respondents to both the PMQ and the TDQ were asked to rate fifteen possible objectives as "very important," "moderately important," "not very important," or "not at all important."

In the analysis of the responses, different types of respondents were distinguished in order to control for bias related to the respondents' positions. The researcher's concern was that line managers responding to the TDQ (and personnel function managers responding to the PMQ) would either answer from their own perspective (thus compromising the value of separate questionnaires on identical opinion-seeking questions) or attempt, with no guaranteed accuracy, to imitate the responses they thought a manager in the opposite functional area would give. To the extent there are distinct "line manager" and "personnel function manager" perspectives on

training objectives, either of these response approaches would distort the data. Therefore, responses made by "line managers" and by "personnel function managers" on both questionnaires were distinguished as indicated in Table 1.

As Table 1 indicates, the two types of managers essentially agreed. Three objectives were named by more than half of both groups: (1) "to improve leadership skills," (2) "to build a managerial style better suited to today's worker," and (3) "to increase ability for problem solving and sound decisions." Line managers also named a fourth item on a majority of their questionnaires: "to encourage more of a management perspective." The four lowest ranked objectives for both types of managers are clearly not highly valued compared to the others.

Program Outcomes

Program and policy evaluation is, preferably, based on outcomes, the results. In ideal circumstances, program success and an organization's continuation of its support for a program will be judgments based on the planned, specific, behavioral, and direct results, but this is not always possible. This section will discuss the following perspectives for assessing program outcomes: (1) specific outcomes expressed in the same terms as program objectives discussed earlier, (2) the degree of match between program objectives and program outcomes (among subject groups as well as across groups), (3) ratings of program strengths and weaknesses, (4) comparative ratings of the WMDP with reference to other training programs used by plants, (5)

Table 1: Summary of "Very Important" Ratings for Objectives Among Respondents to PMQ's and TDQ's

Objectives	P M Q									T D Q								
	Line Managers			Personnel Managers			Overall			Personnel Managers			Line Managers			Overall		
	#	%	Rank	#	%	Rank	#	%	Rank	#	%	Rank	#	%	Rank	#	%	Rank
1. Improve leadership skills	43	71	1	50	78	1	93	74	1	67	66	1	29	74	1	96	68	1
2. Increase problem solving ability	40	66	2.5	47	73	2	87	70	2	56	55	3	26	67	2.5	82	58	3
3. Develop more appropriate managerial style	40	66	2.5	41	64	3	81	65	3	60	59	2	26	67	2.5	86	61	2
4. Gain management perspective	33	54	4	31	48	6	64	51	4.5	43	42	6	25	64	4	68	48	5

Table 1 (cont'd.)

Objectives	PMQ Line Managers #	PMQ Line Managers %	PMQ Line Managers Rank	PMQ Personnel Managers #	PMQ Personnel Managers %	PMQ Personnel Managers Rank	PMQ Overall #	PMQ Overall %	PMQ Overall Rank	TDQ Personnel Managers #	TDQ Personnel Managers %	TDQ Personnel Managers Rank	TDQ Line Managers #	TDQ Line Managers %	TDQ Line Managers Rank	TDQ Overall #	TDQ Overall %	TDQ Overall Rank
5. Increase communication skills	32	53	5	29	45	7	61	49	6	47	46	4	22	56	6	69	49	4
6. Increase labor relations skills	30	49	6	28	44	8	58	46	7	43	42	6	23	59	5	66	47	6
7. Learn from other supervisors	29	47	7	35	55	4	64	51	4.5	43	42	6	20	51	7.5	63	45	7
8. Increase awareness of strengths and weaknesses	27	44	8	25	39	11	52	42	10	42	41	8	16	41	115	58	41	10
9. See job in the total company picture	26	43	9	27	42	9	53	42	9	38	37	11	19	49	9.5	57	40	11

Table 1 (cont'd.)

Objectives	PMQ Line Managers #	PMQ Line Managers %	PMQ Line Managers Rank	PMQ Personnel Managers #	PMQ Personnel Managers %	PMQ Personnel Managers Rank	PMQ Overall #	PMQ Overall %	PMQ Overall Rank	TDQ Personnel Managers #	TDQ Personnel Managers %	TDQ Personnel Managers Rank	TDQ Line Managers #	TDQ Line Managers %	TDQ Line Managers Rank	TDQ Overall #	TDQ Overall %	TDQ Overall Rank
10. Increase self confidence	24	39	10	32	50	5	56	45	8	40	39	10	19	49	9.5	59	42	9
11. Think about job away from plant	22	36	11	26	41	10	48	38	11	41	40	9	20	51	7.5	61	43	8
12. General benefit	12	20	12	11	17	12	23	18	12	16	16	12	16	41	115	32	23	12
13. Reward on vote of confidence	7	12	13	3	5	15	10	2	15	2	2	15	5	13	14	7	5	15
14. Understand how US economy affects their jobs	6	10	14	8	11	13	14	11	13	7	7	14	11	28	13	18	13	13

Table 1 (cont'd.)

Objectives	P M Q									T D Q								
	Line Managers			Personnel Managers			Overall			Personnel Managers			Line Managers			Overall		
	#	%	Rank	#	%	Rank	#	%	Rank	#	%	Rank	#	%	Rank	#	%	Rank
15. Reflect on career	6	10	15	5	8	14	11	9	14	10	10	13	4	10	15	14	10	14

ratings of program components, (6) the influence of program involvement on the policy and structure of training among plants, (7) the influence of involvement on the university's policy and administrative structure for adult learning programs, (8) the influence of supervisors' attendance on their occupational opportunities, and (9) its influence on supervisors' future learning.

Direct, intended outcomes

The discussion begins by describing the direct outcomes the program is designed to achieve. Table 2 is a comprehensive summary of responses among the plants surveyed to questions about outcomes of the WMDP. Line managers and personnel managers were asked to rate the program's actual outcomes with reference to how effectively the WMDP has accomplished them. The outcome alternatives correspond directly to the objectives. Table 2 summarizes the number of times different types of managers rated each outcome "1," that is "accomplished very effectively." There are two categories of managers: line managers and personnel functions managers. The former consists of managers with responsibility for functions directly related to production. The latter category is made up of those managers responsible for personnel functions and includes those responsible for training. This second group of managers will be referred to collectively as "personnel managers."

The analysis of outcomes focuses on the responses of line managers who returned the PMQ and personnel managers who

Table 2: Summary of "Accomplishes Very Effectively" Ratings Among Respondents to Plant Managers' and Training Directors' Questionnaires Concerning WMDP Outcomes

Outcome Alternatives	PMQ Overall (125)			PMQ Line Managers (61)			PMQ Pers. Managers (64)			TDQ Overall (141)			TDQ Pers. Managers (102)			TDQ Line Managers (39)		
	#	%	Rank	#	%	Rank	#	%	Rank	#	%	Rank	#	%	Rank	#	%	Rank
1. General benefit	42	33.6	(2)	22	36.1	(1)	20	31.3	(4)	67	47.5	(1)	45	44.1	(1)	22	56.4	(1)
2. Learn from other supervisors	47	37.6	(1)	20	32.8	(2)	27	42.2	(1)	46	32.9	(2)	36	35.3	(2)	10	25.6	(7.5)
3. Think through job away from plant	41	32.8	(3)	19	31.1	(3)	22	34.4	(2)	39	27.7	(7)	31	30.4	(3.5)	8	20.5	(11.5)
4. Awareness of strengths,weaknesses	32	25.6	(7)	17	27.9	(4)	15	23.4	(11)	32	22.7	(11)	22	21.6	(12)	10	25.6	(7.5)
5. More appropriate managerial style	35	28.0	(4.5)	15	25.0	(5.5)	20	31.3	(4)	43	30.5	(3)	28	27.5	(6.5)	14	38.5	(2)
6. Self confidence	35	28.0	(4.5)	15	25.0	(5.5)	20	31.3	(4)	42	29.8	(4)	30	29.4	(5.5)	12	30.8	(4)
7. Gain management perspective	32	25.6	(7)	14	23.0	(7)	18	28.1	(8)	41	29.1	(5.5)	31	30.4	(3.5)	10	25.6	(7.5)
8. See job in total picture	32	25.6	(7)	13	21.3	(9)	19	29.7	(6.5)	34	24.1	(8)	23	22.5	(10)	11	28.2	(5)
9. Labor relations skills development	24	19.2	(12)	13	21.3	(9)	11	17.2	(12.5)	24	17.0	(13)	16	15.7	(13)	8	20.5	(11.5)
10. Leadership skills	30	24.0	(9)	13	21.3	(9)	17	26.6	(9.5)	41	29.1	(5.5)	28	27.5	(6.5)	13	33.3	(3)
11. Reward	22	17.6	(13)	11	18.0	(11)	11	17.2	(12.5)	30	21.3	(12)	23	22.5	(10)	7	17.9	(13)
12. Improve problem solving skills	29	23.2	(10)	10	16.4	(12)	19	29.7	(6.5)	33	23.4	(9.5)	23	22.5	(10)	10	25.6	(7.5)
13. Increase communication skills	26	20.8	(11)	9	14.6	(13)	17	26.6	(9.5)	33	23.4	(9.5)	24	23.5	(8)	9	23.1	(9.1)
14. Reflect on career	15	12.0	(14)	7	11.5	(14)	8	12.5	(14.5)	17	12.1	(14)	13	12.7	(14)	4	10.3	(14)
15. U.S. economy	11	8.8	(15)	3	4.9	(15)	8	12.5	(14.5)	8	5.7	(15)	8	7.8	(15)	0	0.0	(15)

returned the TDQ. There are clear differences in response distributions according to the two managerial categories.

Within the line managers and personnel managers groups, there are distinctly different response distributions between the two questionnaires. One can attribute this situation to at least two different circumstances. Either managers worked in plants where line managers and personnel managers have an unusual affinity for and knowledge of each other's function, or more likely, when answering the questionnaire intended for managers in the opposite category, the respondents tried to answer it as they think the other would answer it rather than how they would answer it. Assuming the more likely explanation, the study uses only line managers' responses to the PMQ and only personnel managers responses to the TDQ in order to produce the truest statement of the line managers' and personnel managers' perspectives.

Having divided the respondents accordingly, first, general statements which can be made about the two groups' responses were sought. Regarding outcome, no single outcome among the fifteen alternatives attracted a great proportion of highest ratings. No alternative gained a "accomplished very effectively" ratings from as many as half of the respondents in either group. Thus, there is greater agreement about which training objectives are important than there is about which objectives are accomplished "very effectively."

The two manager groups did agree, however, about outcomes' rankings. Both line managers and personnel managers agreed about the order of ranking for the top three outcomes. "General benefit," "opportunity to learn from other supervisors," and "chance to think through their jobs away from the plant" were rated one, two, three by both groups.

The nature of the highly ranked outcomes is as significant as their more specific content. Managers ranked the more generally stated outcomes highest. But, when rating objectives, managers had given the more specifically stated objectives a higher ranking than those of a more general nature. In other words, managers surveyed were more precise about what they wanted than they could be about outcomes actually produced.

Supervisors also rated program outcomes in terms of how effectively they thought each was accomplished. Like the line and personnel manager respondents, the supervisors did not give any single outcome a large proportion of "very effective" ratings. Table 3 lists the supervisors outcomes rankings, and compares supervisor rankings with line and personnel rankings. Like the managers, supervisors tended to rank more general or more indirect outcomes, rather than specific job content related outcomes, in the top positions. Four out of the five highest ranked outcomes are personal developmental outcomes in contrast to other alternatives such as "improve problem solving skills" and "improve labor relations skills" which are more directly applicable to job situations.

But, as Table 3 illustrates, supervisors' rankings of specific outcomes were quite different than the managers' rankings. For example, not one supervisor gave the outcome "general benefit" a rating of "very effective." Three outcomes--"increasing communication skills," "provided opportunity to reflect on my career," and "learned how the U.S. economy affects the supervisor's job"--were ranked much higher by supervisors than by managers. On the other hand, "gained more of a management perspective" was ranked much lower by supervisors than by managers.

In order to gain more insight into respondents' ratings of program outcomes, rating distributions for each outcome were cross tabulated with general demographic and participation variables. Among line managers and personnel managers, no demographic variables showed a significant relationship. Demographic variables for supervisors, however, were apparently related to the frequency of high ratings for some outcomes. Younger supervisors, those less than thirty-five years old, are much more likely to have given higher ratings to outcomes which indicate a willingness to learn and openness to change. Supervisors in the younger group were twice as likely to say the WMDP was very effective in helping them to become "more aware of their strengths and weaknesses," in giving them an "opportunity to reflect on their career," in helping them "learn from other supervisors," and in giving them "a chance to think through their jobs away from the plant."

Table 3: Comparison of Supervisors' Ratings of Outcomes as "Accomplished Very Effectively" with Those of Line Managers and Personnel Managers

	Supervisors			Line Managers		Personnel Managers	
Rank Outcomes	#	%	Rank	Rank	%	Rank	%
Opportunity to think through job away from plant	44	35.8	(1)	3	31.1	3.5	30.4
Increased awareness of strengths and weaknesses	42	34.2	(2.5)	4	27.9	12	21.6
Increased communication skills	42	34.2	(2.5)	13	14.6	8	23.5
Increased self confidence	40	32.6	(4.5)	5.5	25.0	5	29.4
Learned from other supervisors	40	32.6	(4.5)	2	32.0	2	35.3
Developed managerial style more appropriate to today's worker	37	30.1	(6)	5.5	25.0	6.5	27.5
Opportunity to reflect on career	34	27.6	(7)	14	11.5	14	12.7
Increased labor relations skills	32	26.0	(8)	9	21.3	13	15.7
Learned how U.S. economy works and affects my job	31	25.2	(9.5)	15	4.9	15	7.8
Increased my leadership skills	31	25.2	(9.5)	9	21.3	6.5	27.5
Developed more of a management perspective	30	24.4	(11)	7	23.0	3.5	30.4
Was a reward or vote of confidence	29	23.6	(12)	11	18.0	10	22.5
Helped me see my job in the total company picture	28	22.8	(13)	9	21.3	10	22.5

Table 3 (Cont'd.)

Rank Outcomes	Supervisors #	Supervisors %	Supervisors Rank	Line Managers Rank	Line Managers %	Personnel Managers Rank	Personnel Managers %
Increase my problem solving ability	25	20.3	(14)	12	16.4	10	22.5
Was of general benefit	0	0.0	(15)	1	36.1	1	44.1

Ratings also related to the number of years respondents had been first-line supervisors. Those who had been supervisors only two years or less were more likely to see participation in the WMDP as a "reward or a vote of confidence," and to say that the program helped "build their self confidence," and help them "see their jobs in the total company perspective."

The program outcomes, then, are a matter of disagreement among the three groups. There is substantial agreement about the ranking of outcomes with reference to how effectively they were achieved, in that managers and WMDP administrators all selected the same outcomes as the three most effectively accomplished. But, the supervisors rank program results quite differently in terms of the degree to which each objective is accomplished effectively. This may indicate that managers and program administrators share more attitudes, perceptions, and values than supervisors share with either. The different opinions about outcomes illustrates the policy dilemma program administrators face.

Several specific questions are part of this quandary. Who must be impressed for the program to succeed? How specifically must their opinion be described? How, and to what degree, do outcomes actually determine program success? Is it necessary for outcomes to match objectives?

The foregoing discussion makes it clear that line managers, personnel managers, and supervisors do not agree.

Match between objectives and outcomes

The statement of the programs results, ratings of how effectively they were accomplished, and the ranking of those results according to their ratings constitutes the most direct or first level description of program outcomes. A second level of outcome is now discussed. This is the degree to which outcomes match the originally stated objectives for which plants became involved in the WMDP. For the purposes of policy analysis and program evaluation, this level logically has more weight than the mere listing of outcomes.

The match is evaluated in terms of the degree to which rankings of program objectives' importance coincide with rankings of how effectively the WMDP accomplished each corresponding outcome. Secondarily, the magnitude of highest ratings each outcome receives compared to the magnitude of highest ratings its corresponding objective received is examined.

There is a very small degree of match, either between objectives and outcomes among line managers and personnel managers as separate groups, or across groups. Table 4 summarizes the match between objectives and outcomes for line managers and personnel managers separately. Among line managers, only two alternatives place in the top half of the rankings of both objectives and outcomes. "More appropriate managerial style" is ranked third as an objective and fifth as an outcome, and "gain a management perspective" is ranked fourth as an objective and seventh as an outcome. However, even though the rankings are similar, the percentage of respondents

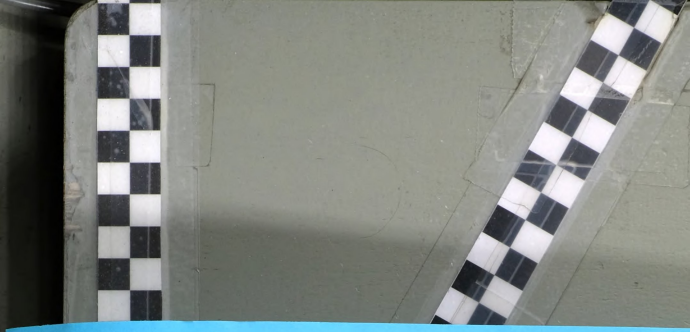

Table 4: Comparison of the Objecti
Ratings of Supervisor Res

Line Managers' Objectives Ranked:	Rank as Objec-tive
1. Improve leadership skills	1
2. Improve problem solving ability	2.5
3. Develop more appropriate management style	2.5
4. Gain management perspec-tive	4
5. Increase communication skills	5
6. Increase labor relations skills	6
7. Learn from other super-visors	7
8. Increase awareness of strengths and weaknesses	8
9. See job in total company perspective	9
10. Increase self confidence	10
11. Think through job away from plant	11
12. General benefit	12
13. Reward on vote of confi-dence	13

and Outcomes Rankings for Line Managers Answering the PMQ and Personnel Managers Answering the TDQ, and the Outcomes' ndents

% #1 Rat- ings	Rank as Out- come	% #1 Rat- ings	Personnel Managers' Objectives Ranked:	Rank as Objec- tive	% #1 Rat- ings	Rank as Out- come	% #1 Rat- ings	Supervisors' Ratings of Outcomes Ranked:	Rank as Objec- tive	% #1 Rat- ings
70.5	9	21.3	Improve leadership skills	1	65.7	6.5	27.5	Opportunity to think through job away from plant	1	35.8
55.6	12	16.4	Develop managerial style more appropriate for today's worker	2	58.8	6.5	27.5	Increased awareness of strengths and weaknesses	2.5	34.2
55.6	5.5	25.0	Increase problem solving ability	3	54.9	10	22.5	Increased communication skills	2.5	34.2
54.1	7	23.0	Increase communication skills	4	46.1	8	23.5	Increase self confidence	4.5	32.6
52.5	13	14.6	Gain management perspective	6	42.2	3.5	30.4	Learn from other supervisors	4.5	32.6
49.2	9	21.3	Increase labor relations skills	6	42.2	13	15.7	Develop managerial style more appropriate to today's worker	6	30.1
47.2	2	32.8	Learn from other supervisors	6	42.2	2	35.3	Opportunity to reflect on career	7	27.6
44.3	4	27.9	Increase awareness of strengths and weaknesses	8	41.2	12	21.6	Increased labor relations skills	8	26.0
42.6	9	21.3	Think through job away from plant	9	40.2	3.5	30.4	Learned how U.S. economy works and affects my job	9.5	25.2
39.3	5.5	25.0	Increase self confidence	10	39.2	5	29.4	Increased leadership skills	9.5	25.2
36.1	3	31.1	See job in total company perspective	11	37.3	10	22.5	Developed more of a management perspective	11	24.4
19.7	1	36.1	General benefit	12	15.7	1	44.1	Reward or vote of confidence	12	23.6
11.5	11	18.0	Reflect on career	13	9.8	14	12.7	Helped me see my job in total company perspective	13	22.8

Table 4

Line Managers' Objectives Ranked:	Ra a Obj ti
14. Learn how U.S. economy affects their jobs	1
15. Reflect on career	1

(Cont'd.)

% #1 Ratings	Rank as Outcome	% #1 Ratings	Personnel Managers' Objectives Ranked:	Rank as Objective	% #1 Ratings	Rank as Outcome	% #1 Ratings	Supervisors' Ratings of Outcomes Ranked:	Rank as Objective	% #1 Ratings
9.8	15	4.9	Understand how U.S. economy affects their job	14	6.9	15	7.8	Increased my problem solving ability	14	20.3
9.8	14	11.5	Reward or vote of confidence	15	2.0	10	22.5	Was a general benefit	15	0.0

giving top ratings to the alternatives as outcomes is smaller by far than those who rated their importance highest as objectives. Among personnel managers, "a more appropriate managerial style" and "gain more of a management perspective" also place in the top half as both objectives and outcomes, and are joined by the alternative, "improve leadership skills." But, the gap in rank is wide still, and the proportion of respondents giving highest ratings to outcomes is substantially smaller than for objectives. Clearly managers expectations were not met as measured in this way.

Another approach to measuring whether managers' objectives were met is to compare their rankings of objectives with supervisors' ranking of outcomes. Table 4 summarizes this comparison. Only three outcomes rank in the top seven for both line managers' objectives and supervisors' outcomes. The same is true in the comparison of personnel managers' objectives with supervisors' outcomes. In fact, the coincidental three items are the same in both cases: "appropriate managerial style," "increase communication skills," and "learn from other supervisors." Once again, the reader will notice that a smaller percentage of respondents give each item a top rating as an outcome than give it a highest rating as an objective.

Obviously there is very little match between the importance of desired outcomes, or objectives, and the degree to which objectives were accomplished, or outcomes. In this sense, then, one can say that the WMDP was not successful. Yet to judge success by this criterion, one must first assume that policy

decision makers judge the level of success by the proportion of match between objectives and outcomes. It may be that managers and supervisors as well could regard the WMDP successful as long as any objective is "accomplished very effectively."

If commitment to ongoing participation depended upon the WMDP's accomplishing managers' most important objectives, then in this case, one could expect little support for the program among managers.

The PMQ supplies data with which to test this expectation. Respondents were asked to indicate whether they planned to send participants regularly for the foreseeable future. In response, 53.2% said they planned to send participants, 9.5% said they did not, and 37.3% were not sure. To try to determine the extent to which satisfaction of objectives determines ongoing participation, the proportion of objectives rated a "1" which had then been rated with a "1" as outcomes was recorded. There was no relationship between the proportion of very important objectives met very effectively and whether the respondent answered to a later question that his or her plant planned to send participants for the foreseeable future.

There was, however, an apparent relationship between having cut back in response to economic slowdown and future commitment to sending participants. Table 5 summarizes this relationship.

Those companies who said they have cut back training because of economic conditions were much less likely to say they planned to send participants regularly in the foreseeable

Table 5: Relationship Between Plan to Send Participants Regularly in the Future and Participation Cutbacks Made in Response to Economic Slowdown

Will Send Participants for Foreseeable Future	Have Made Cutbacks Due to Economic Conditions							
	Yes		No		Don't Know		Row Totals	
	%	#	%	#	%	#	%	#
Yes	43.2%	(19)	60.3%	(47)	25.0%	(1)	53.2%	(67)
No	13.6%	(6)	7.7%	(6)	0.0%	(0)	9.5%	(12)
Not sure	43.2%	(19)	32.1%	(25)	75.0%	(3)	37.3%	(47)
Totals	34.9%	(44)	61.9%	(78)	3.2%	(4)	100.0%	(126)

future. Those who have cutback also proportionately outnumbered those who have not, among those who are not sure about future plans. This exploratory study indicates that economic circumstances are better predictors of participation than the proportion of important objectives or expectations met.

Supervisors expressed an even stronger approval than managers of the WMDP when asked, whether they would attend again or recommend that their fellow supervisors attend. Table 6 summarizes supervisors' responses to the question of whether they would attend another WMDP if given the opportunity.

Table 6: Distribution of Supervisor Responses to the Question, "Would You Attend Another Session of the WMDP, if Given the Opportunity?"

Responses	Number	Percent
No	7	5.7
Yes	100	81.3
Don't know	9	7.3
No answer	7	5.7
Totals	123	100.0

Supervisors were satisfied enough to voice a better than four out of five intention to return if given the opportunity. When supervisors were asked whether they would recommend the WMDP to

other supervisors, the program garnered a higher approval percentage. Table 7 summarizes the answers to this question.

Table 7: Distribution of Responses to the Question, "Would You Recommend the WMDP to Other Supervisors?"

Responses	Number	Percent
Yes	120	97.6
No	0	0.0
Don't know	3	2.4
Totals	123	100.0

Former participants regard the program as valuable for them and other supervisors.

A majority of the respondents to the PMQ, then, indicate they plan to send participants for the foreseeable future. Less than ten percent said they would not, and both the negative response and the not sure response were related to economic conditions. By a far greater margin, supervisors said they would attend again, and by a greater margin still, said they would recommend that other supervisors go. Clearly the WMDP has a substantial approval rating among both the managers who send participants and the participants themselves. This suggests that ongoing support depends on factors other than the match between objectives and outcomes.

Ratings of program strengths and areas which need improvement

To get a more complete accounting of managers and supervisors' evaluation of the WMDP, a discussion follows concerning responses to other questions in which members of respondent groups were asked to evaluate the WMDP in other ways. In the first of these questions, respondents were asked to indicate which program characteristics they regarded as strengths and to rate the importance of each. An examination of Table 8 provides the reader with some alternative explanations of why a program for which the match between objectives and outcomes was so low attracts ongoing participation. For example, nearly sixty percent of the respondents to the PMQ regard the fact that the program is designed to offer a concentration of coursework, rather than distributing class periods over a longer time span, and the fact that the program is located away from the plant as very important strengths.

A cross-tabulation of the responses to this question with participation volume per plant over the last ten years revealed that a higher volume of participation was positively related to three program strengths: "the positive and supportive attitude of the staff," "the use of professional university instructors," and "the follow-up of Units II and III." In other words, plants with a higher volume of participation over the last decade were more likely than those with lower volumes of participation to regard these three characteristics as "very important."

Table 8: WMDP Strengths Regarded as "Very Important" to the Company by Each Respondent to PMQ

	Number	Percent
1. Intensive format: Classes in one week	74	58.7
2. That program takes FLS's away from workplace	73	58.0
3. Positive and supportive attitude of staff	57	45.3
4. Use of professional instructors from higher education	49	38.9
5. University campus location	41	32.6
6. Follow-up of Units II and III	41	32.6
7. Unique program content	26	20.7
8. Ability of faculty to meet adults' special learning needs	26	20.7
9. WMDP staff's contact with plant	20	16.0
10. Provides an opportunity to support higher education	11	8.7

Adult education programs also gather participants and support by offering credit for completion. Therefore, respondents to the PMQ and the Supervisors' Questionnaire were given questions about the value of credit such as Continuing Education Units (CEU's) to the respondents. The response distributions summarized in Table 9 suggest that offering credit was important to about two out of five of the supervisors, and about half the respondents to the PMQ.

A cross-tabulation of this variable among PMQ respondents with participation volume over the last decade indicates that those plants who regard it as important were more likely to have sent sixteen or more respondents over the past ten years.

Looking to see if other approaches to policy decision making were significant factors in plants' participation decisions, the TDQ asked respondents to indicate first whether they had determined a cost/benefit ratio, and then, for those who had, whether the WMDP was cost beneficial. Of the one hundred forty-one respondents, only five percent (7) indicated they have determined a cost/benefit ratio. But, of the seven who have, the results were unanimous that the program is cost beneficial.

Comparative ratings of WMDP with other training programs

The discussion of outcomes has, to this point, dealt with all the indirect ways of evaluating the program and with factors which may also explain plants' participation in the WMDP despite the lack of match between stated objectives and outcomes. The questionnaires also asked respondents more directly

Table 9: Distribution of Responses Among Supervisors to the Question, "Would the WMDP be more valuable if Credit or CEU's were offered?" and Among PMQ Respondents to the Question, "Should CEU's or Other Credit be Offered for Completion of the WMPD?"

	Responses	Number	Percent
1.	Yes (SQ)	47	38.2
	Yes, strongly (PMQ)	26	20.6*
	Yes, would be an improvement (PMQ)	37	29.4*
2.	Don't care (SQ)	22	17.9
	No strong feeling (PMQ)	41	32.5
3.	No (SQ)	47	38.2
	No (PMQ)	16	12.7
4.	No answer (SQ)	7	5.7
	No answer (PMQ)	6	4.8

*Total of asterisked items equivalent to 50.0%.

to give their ratings of the WMDP. In each case, they rated the WMDP in comparison with other programs of training or different means of learning. Respondents to the TDQ rated on a three point scale six types of training which business firms sometimes use. An examination of Table 10 reveals that the WMDP is the most highly rated type of training overall. Almost half of the respondents rated the program "very beneficial." Plant designed programs attracted the second highest percentage of top ratings.

When the proportion of top ratings is figured on a base of only those plants actually using that type of training, then "plant designed" is most highly rated. It is surprising to note that the type of training named third most often as very beneficial is tuition reimbursement, a very nonspecific educational policy of which supervisors may take advantage. It is the second most frequently used type of training for first-line supervisors among this study's sample. The fact that such a general program is so widely used and so highly regarded suggests that firms have not identified their training goals very specifically. Still, when the responses to this question are cross-tabulated with the degree of specialization in staffing the training function, it is the most specialized plants which rate tuition reimbursement most often as "very beneficial." In fact, as shown in Table 11, among plants with full-time training managers, tuition reimbursement and plant designed training rank in a tie for the most often given the highest rating, and the WMDP is ranked third behind them.

Table 10: Rating of Types of Training Used, "Very Beneficial"

		#	%	Total # of Plants Using This Type	% of Users Rating "Very Beneficial"
1.	WMDP	69	48.9	128	53.9
2.	Plant designed	58	41.1	104	55.8
3.	Tuition reimbursement	56	39.7	119	47.1
4.	Central office	36	25.5	88	40.9
5.	Professional association	17	12.1	96	17.7
6.	Independent	16	11.3	73	21.9

Table 11: Percent "Very Beneficial" Ratings of Training Sources with Reference to the Number of Training Managers in the Plants

Source	No Training Managers			Only Part-Time Training Managers			Full-Time Training Managers			Total		
	%	#	Rank	%	#	Rank	%	#	Rank	%	#	Rank
WMDP	45	22	(1)	49	32	(1)	54	14	(3)	49	69	(1)
Plant designed	37	18	(2)	40	26	(2)	58	15	(1.5)	41	58	(2)
Tuition reimbursement	35	17	(3)	31	20	(3)	58	15	(1.5)	38	53	(3)
Central office	22	11	(4)	25	16	(4)	35	9	(4)	26	36	(4)
Professional association	8	4	(5)	14	9	(6)	12	3	(5)	12	16	(5)
Independent consultant	8	4	(6)	15	10	(5)	8	2	(6)	11	16	(6)

*Sum of column totals actually totals only 140 because there was one "No Answer."

Supervisors provided the other direct program ratings in this study. They first rated different ways of learning their job. The alternatives which they rated included both formal and informal means of learning their jobs. Table 12 displays the distribution of responses to this question. The top three ranked ways of learning their jobs as first-line supervisors, when overall ratings are considered, are informal. The type of training category into which the WMDP falls, "classroom training during plant hours, away from plant," ranked fourth overall and third based on the proportion of respondents rating alternatives "very beneficial." Furthermore, classroom training, away from the plant, during work hours was the only formal type of training ranked in the top six.

Table 13 shows that supervisors gave the WMDP the highest rating among other formal types of training for their jobs. Unfortunately, the questionnaire did not include tuition reimbursement among the alternative programs supervisors were asked to rate.

The responses to these questions indicate that the WMDP is highly regarded by both managers and supervisors. It is not possible to eliminate the possibility that respondents rated the WMDP highest because the questionnaire was mailed with a letter clearly stating that the study was done with the approval and cooperation of the program itself. But, the fact that the category which supervisors ranked highest among the formal and specific types of learning was the category in which the WMDP

Table 12: Helpfulness of Types of Training in Learning Supervisor's Job (Ratings of "Very Helpful" and "Moderately Helpful")

Types of Training	Respondents Rating "Very Helpful"		Respondents Rating "Moderately Helpful"		Totals	
	%	#	%	#	%	#
1. Discussing job with other supervisors	31.4	(39)	37.4	(46)	69.1	(85)
2. Reading on my own	23.6	(29)	41.5	(51)	65.1	(80)
3. On job coaching from immediate supervisor after starting as supervisor	30.9	(38)	26.0	(32)	56.9	(70)
4. Classroom training during hours, away from plant	28.5	(35)	22.0	(27)	50.5	(62)
5. No training, learned on my own by trial and error	28.5	(35)	22.0	(27)	50.5	(62)
6. On-job-coaching from my immediate supervisor before starting as supervisor	26.0	(32)	18.7	(23)	45.7	(55)
7. Programmed instruction	8.1	(10)	30.9	(38)	39.0	(48)
8. Classroom training, during hours, at plant	9.8	(12)	25.2	(31)	35.0	(43)
9. Classroom training, after hours, at plant	4.1	(5)	14.6	(18)	19.7	(23)

Table 13: Supervisors' Evaluation of Helpfulness of Types of Learning Programs in Learning Your Job as First-Line Supervisor (Ratings of "Very Helpful" and "Moderately Helpful")

Type of Program	Respondents Rating Very Helpful		Respondents Rating Moderately Helpful		Totals	
	%	#	%	#	%	#
WMDP	52.8	(65)	35.0	(43)	87.8	(108)
In plant programs produced by plant personnel	29.3	(36)	35.8	(44)	65.1	(80)
Plant programs by outside consultants	21.1	(26)	29.3	(36)	50.4	(62)
Other college based programs	15.4	(19)	18.7	(23)	34.1	(42)
Professional association programs	12.2	(15)	14.7	(18)	16.9	(33)

belongs lends some weight to the conclusion that at least in terms of rankings, the responses are true.

The program outcomes described to this point are those considered when doing a program analysis. They include the intended outcomes--program objectives--and the ratings of programs, which constitute the program's attidinal outcomes. But, this study, is concerned also in the indirect, unintentional, and usually unarticulated outcomes which influence the commitment organizations are willing to make over the long term, and which shape learning opportunities for adults. This type of outcome is grouped under the following four headings: (1) influence on the policy and structure of training among plants, (2) influence on supervisors' occupational opportunities, and (3) influence on supervisor's future learning.

Influence on plants' training policy and training programs' structure

A total of three questions on the plants' questionnaires addressed the question of how plants' participation in the WMDP influenced training policy and structure within the plants themselves. In the first of these questions, respondents to the PMQ indicated which of four possible education and training policy changes they had adopted in their plants within the past ten years, when those changes were made, and whether their participation in the WMDP had influenced them to make the change. Table 14 summarizes the responses. The most often mentioned change is an increase in training activity. Perhaps

Table 14: Education and Training Policy Changes Made Within the Past Ten Years

Type of Change Made	% of Respondents	# of Plants Making Change	% Who Made Change in Last 3 Years (#)	% Who Attributed Change to WMDP Participation (#)
Increased training activity	55.5	(70)	55.7 (39)	24.3 (17)
Base training on more specifically defined needs	34.1	(43)	72.1 (31)	25.6 (11)
Hired training director	19.8	(25)	64.0 (16)	16.0 (4)
Evaluate training more specifically	15.9	(20)	80.0 (16)	30.0 (6)

the most important finding from this question is the fact that changes in training policy are a recent phenomenon. Of all the changes reported, sixty percent have taken place within the last three years.

The PMQ also asked respondents to indicate which changes from a list provided had taken place as a result of their use of the WMDP for training. They were not limited to any time period. Table 15 reports the distribution of responses to this question. Obviously the most frequently made change is an increase in training activity. But, it is important also that their involvement with the WMDP has resulted in some more specific policy changes which have altered the structure of training opportunities not only for supervisors, but also in a few cases for middle managers as well.

Finally, respondents to the TDQ were asked a similar question: "What changes have been made in your plant as a result of your participation in the WMDP?" As shown in Table 16, plants have begun to entertain new sources of training from outside and have incorporated some of the methods used in the WMDP (and likely those from other outside training sources) into their in-house training.

Outcomes for supervisors' occupational advancement and future learning

The partnership between the university and the firms using the WMDP over almost three decades has changed adult learning opportunities within the firms but has had little or no lasting

Table 15: Changes Which Have Taken Place in Plants As A Result of Their Participation in the WMDP

Type of Change	Percent of Plants Making the Change	Number of Plants Making the Change
Increased training	36.5%	46
Do more off-site training	18.3%	23
Revised supervisor training policy	16.7%	21
Change content of in-house programs	16.7%	23
Use other college and university programs	11.9%	15
Have revised the supervisor's position	7.9%	11
Have revised training policy for middle managers	3.2%	4
Have decreased training	3.2%	4
Do less off-site training	0.8%	1

Table 16: Changes Made in Plant as a Result of Participation in WMDP

Type of Change	Percent of Respondents Making Change	Number of Respondents Making Change
More willing to use college based training	34.0	48
Shifted emphasis of supervisory training to broaden it	19.1	27
Do more off-site training	17.7	25
Have eliminated some of our own training courses now covered by WMDP	7.8	11
Have adopted some of the teaching methods used in WMDP	7.1	10

effect upon those opportunities available through the university beyond those which the program, itself, affords.

A third area in which the WMDP can potentially change adult learning opportunities is among the participants themselves. Within or among organizations, the program can change policies, resources, and practices so as to make it more likely that adults can learn in or through the resources of the organization. For the participants, the relevant impact is of a different nature. Participation in the WMDP has the potential for changing supervisors' attitudes about learning and about themselves as learners. And, it can also change their ability to learn and their capacity to entertain and accept new ideas and new ways of doing their jobs. Finally, these results and the informal "credentialing" or recognizing of skills by an outside concern can increase the supervisors' career advancement opportunities.

Two items on the Supervisors' Questionnaire provided information about the degree to which their participation in the WMDP had these outcomes. The first gathered information about the positions respondents had held since they participated in the WMDP and the positions which they held before their participation. Based on this, it was determined whether the participants had been upward mobile since their participation in the program. Thirty-five percent had been appointed to a higher position in management since their participation. Among the cross-tabulations run with the variable upward mobility,

only the number of WMDP units attended was related. As Table 17 indicates, those who had attended more than just Unit I were more likely to have been upward mobile. However, attending Unit III after Unit II did not seem to contribute to upward mobility. It is not possible, based on the data available, to say whether selection for participation in Units II or III is predicated on prior selection for a higher position, or whether participation in more than Unit I gives the supervisor an advantage over those who have less training. Ultimately, upward mobility is a descriptive variable rather than one we can confidently relate to supervisors' participation in the WMDP.

In addition to career mobility, respondents also provided information on their educational mobility. They also provided their evaluation as to whether their participation was related to their further educational attainment or learning activity following their participation in the WMDP. An examination of Columns B-E in Table 18 gives a profile of the relationship of the WMDP experience to later learning for participants. Columns B and C indicate the number and percentage (in parentheses) of respondents who have been active in various types of learning. Column D gives the number of supervisors who engaged in that activity only after the WMDP experience and also attributed the post program learning in that category to their participation. Column E supplies the same data for those who were involved in each learning activity both before and after the program.

Table 17: Cross-tabulation of Upward Mobility by Number of Units Attended

Upward Mobility	Units I, I I, I I I			
	I	I & II	I, II & III	Totals
Yes	19	15	8	42
	23.8	62.5	53.3	35.3
No	61	9	7	77
	76.2	37.5	46.7	63.9
Totals	80	24	15	119*
	67.2	20.2	12.6	100.0

*Four respondents did not answer this question.

Table 18: Educational Attainment as It Relates in Time Sequence to Participation in the WMDP (N = 117)

	Col. A		Col. B		Col. C		Col. D		Col. E	
	Before WMDP		After WMDP		Before and After WMDP		Attribute After to WMDP		Attribute to WMDP, Both	
	N = 117		N = 123		N = 123					
	#	%	#	%	#	%	#	%	#	%
1. Some high school or elementary school	11	9.4	0	0.0	0	0.0	0	0.0	0	0.0
2. High school diploma or GED	50	42.7	2	1.6	2	100.0	0	0.0	0	0.0
3. Some two year college	25	21.4	2	1.6	4	3.3	2	100.0	4	100.0
4. Two year college degree	5	4.3	2	1.6	-	-	2	100.0	-	-
5. Some four-year college	14	12.0	1	0.8	1	100.0	1	100.0	1	100.0
6. Four-year college degree	12	10.3	3	2.4	-	-	1	33.3	-	-
7. Public school non-credit adult education	17	13.8	2	1.6	4	3.3	2	100.0	3	75.0
8. College non-credit adult education	6	4.9	2	1.6	6	4.9	1	50.0	4	66.7
9. Reading on one's own	17	13.8	23	18.7	41	33.3	14	60.9	27	65.9
10. Non-credit adult education, non-educational institution	3	2.4	5	4.1	7	5.7	5	100.0	5	71.4

Table 18 (Cont'd.)

	Col. A		Col. B		Col. C		Col. D		Col. E	
	Before WMDP		After WMDP		Before and After WMDP		Attribute After to WMDP		Attribute to WMDP, Both	
	N = 117		N = 123		N = 123					
	#	%	#	%	#	%	#	%	#	%
11. Skill training, not for job	26	21.1	6	4.9	8	6.5	3	50.0	5	62.5
12. Company tuition reimbursement	11	8.9	6	4.9	4	3.3	4	66.7	4	100.0
			54	(NA)	75	(NA)	37	(68.5)	53	(70.7)

While the absolute numbers are small, the percentages of supervisors who participated in each learning activity and attributed their post program participation to the program experience is a significant finding. The questionnaire did not go on to ask respondents to explain how the program experience had contributed to later learning. There are a number of possibilities. Participation may have sparked an interest in the literature of management, communication, organizational behavior, or economics which they had not realized before. This would most likely be reflected in the data concerning "reading on your own." It is also possible that success they experienced in the WMDP with coming to a better understanding of their jobs or themselves as supervisors convinced them that they still had the capacity to learn and grow. Often adults assume that all learning naturally ends once they have completed required schooling. A similar possible consequence to program attendance is that supervisors who previously had felt uncomfortable with the idea of being an older student on a college campus may have overcome their misgivings after spending a comfortable week in classrooms on the university campus.

In order to control in some limited sense for the possibility that this relationship between later learning and WMDP participation was an artifact of some other mutually related variable, the variable "reading on your own" was cross-tabulated with other variables such as prior educational attainment and age. There was no relationship with age. And,

though the numbers were too small to be statistically significant, the only education category in which reading on their own was mentioned more frequently than the average was for those who had less than a high school degree. Almost two and a half times the proportion of respondents with less than a high school education reported they did reading on their own after their participation in the WMDP than the average of all respondents.

Plants' Decision-Making Process Concerning Ongoing Use

The outcomes of a program and the objectives for engaging in that program do not always explain an organization's commitment to that program. Understanding the dynamics which determine the volume and quality (e.g., the type of supervisors plants send to the WMDP) of plants' participation in the WMDP may require that the researcher have information about the process used to make decisions about program use. In this section, the plant's decision making process concerning the WMDP will be discussed.

In the plants two types of decisions about the WMDP are made: (1) those which determine whether the plant continues using the program, and (2) those which determine who will be selected to participate, should the plant continue to be involved? Who makes the various decisions, the criteria used, and the techniques employed for gathering information used for decision-making are the important variables.

Needs analysis

Ideally, any training done in an organization is based on the outcomes of a needs analysis. Thus, the person who determines needs is an important influencer of training policy decisions. The results of this survey, detailed in Table 19, demonstrate that the line manager's position was named more frequently (68.5%) than any other as the final determiner of plant training needs. "Personnel departments" were designated less than half as often (32.3%), and the "training director" less than a fourth as often (15%). The fact that only 20% of those plants responding to the plant managers' questionnaire had a full-time training manager on their staffs accounts in part for the small percentage of plants in which training directors make the final determination of needs. Yet, of the twenty-two plants who have a manager with full-time training responsibility, that manager makes the final determination of the training needs of supervisors in only twelve (54.5%) as shown in Table 20. Needs determination, for whatever reason, is usually a line manager's function among the plants surveyed.

Deciding to begin, continue, or discontinue training

After training needs are identified, someone decides who will do the training. For the purposes of this study, the next step in the decision process is whether to use outside programs, or continue their use into the next budget year.

Location of Training Decisions. A first decision is where the decision will be made. In multi-plant firms, the central

Table 19: Distribution of Answers to Question, "Who Makes Final Determination of Training Needs in Your Plant?" (N = 126)

Position	#	%
Line managers	87	68.5
Personnel department	41	32.3
Training director	19	15.0
Central office	16	12.6
President	5	3.9
Other	7	5.5

Table 20: Distribution of Answers to the Question, "Who Determines Training Needs?" by Number of Training Managers

	No Full Time (N = 90)	One or More Full-Time (N = 22)	Totals (N = 113)
Line Managers	63	14	77
%	69.2	63.6	68.1
Personnel Department	31	8	39
%	34.1	36.4	34.5
Training Director	7	12	19
%	7.7	54.5	16.8
Central Office	11	3	14
%	12.1	13.6	12.4
President	5	0	5
%	5.5	0.0	4.4
Totals	91*	22*	113*
%	80.5	19.5	100.0

*More than one position mentioned for many plants.

office may determine how training for supervisors will be done. But, this is not the case for the group of plants in this study; 90% of the local plants have either total or shared control in this decision about the training of local employees. Only 10% of the plants responding to the question said local training was decided by their central office. Sixty-three percent reported these decisions were under local control exclusively, and twenty percent reported a policy of joint control, in which the "central office requires or encourages some kinds of training and then leaves us the responsibility for putting on programs to meet additional needs." Thus it would seem that for programs like the WMDP, successfully getting return requests for training services depends upon the relationship with individual plants' managers rather than relationships with corporate offices. In the group of plants surveyed, when the central office requires or encourages the use of programs, the programs they support are in-house programs which they have produced or purchased. They do not require plants to use designated outside sources of training. (This is consistent with the responses to the earlier question about plants' motivation for initially using the WMDP. There too only about 10% of the respondents indicated they first used the WMDP because of encouragement from the company's central office.)

Local Managers Responsible for Training Decisions. The next concern about the decision process is who in the local plants most influences decisions to begin, continue, or discontinue the use of outside training programs? The pattern is

Table 21: Person(s) Who Make the Decision to Begin, Continue, or Discontinue Use of Outside Training Sources

Position	%	#
Plant manager	69.8	88
Personnel manager	47.6	60
Central office	19.0	24
Training director	16.7	21
Production manager	15.9	20
Finance manager	1.6	2

*Some respondents checked more than one answer.

similar to the pattern of influence of training needs determination shown in Table 20. The distribution of responses is given in Table 21 below. (Respondents were asked to check more than one alternative when more than one managerial position had such authority.) Again line managers (the plant manager and production manager here) are far more frequently mentioned than managers of human resource functions (i.e., personal manager and training director). The figures suggest that plant managers often share decisions about contracting for outside training. Line managers retain a central role in training decisions in most plants.

This fact is reflected also in the WMDP client recruitment strategies. The program's policy is to go first to the plant's chief executive, usually the plant manager. This person may delegate the administrative decisions to a manager in the personnel or training departments. However, because of the structure of policy decision making and the importance of upper level support for training, the WMDP staff initiates contact through line managers and tries to maintain contact with them in succeeding years.

Budgeting Decisions. Budgetary decisions about costs for supervisors training reflect the same structure with reference to local control and the influence of line and staff. Almost eighty-five percent of the survey respondents reported that training costs are allocated from their local budgets. Slightly over fifteen percent of the plants responding receive

training funds from their company's central office either through reimbursement or budget allocation. And, at least one-third of the locally funded programs charge employees' training directly to his or her department, giving middle level line managers direct influence on the training for their subordinates.

Selection of Participants. This study is concerned with the structure of adult learning opportunities, i.e., what opportunities are available, how one gains access to them, and, as a result, who obtains them. To answer this question, one must know not only how participants are selected for the WMDP, but also how men and women are initially selected as supervisors. Therefore, respondents to the plant managers' questionnaire (PMQ) were asked what criteria are used to select supervisors, and whether there are evident trends in the selection criteria. The distribution of responses shown in Table 22 are as interesting for the infrequently mentioned criteria as those more commonly cited.

About half (49.2%) of the respondents (and 62% of those who were familiar with previous criteria) said these criteria represented a change over the last decade in their firms. The sixty respondents who specified the nature of the change, as shown in Table 23, mentioned items which reflect developments in personnel practice and characteristics of the labor force generally. Their comments indicate that firms are becoming more demanding and specific in selecting new supervisors. They

Table 22: Distribution of Selection Criteria Used in Plants Surveyed (N = 126)

Criterion	Number Mentioning	Percent Mentioning
Demonstrated leadership ability	116	92.1
Cooperative attitude	90	74.4
Ability in human relations	83	65.9
Superior's recommendation	81	64.3
Work record as hourly worker	70	55.5
Technical skill	47	37.3
Demonstrated courage	26	20.6
Union experience	11	8.7
Fellow workers' recommendations	10	7.9
Personality test	9	7.1
Selection test	9	7.1

Table 23: Changes in Selection Criteria for First Line Supervisors During Last Ten Years, In Order of Frequency With Which They Are Mentioned (N = 60)

Type of Change	Number Mentioning	Percent Mentioning
More concern about human relations skills than technical skills	13	21.7
More careful and demanding selection process	12	20.0
Greater educational attainment	12	20.0
More outside recruits	8	13.3
Less concern with hourly worker competence and seniority	8	13.3
People with promotion potential	2	13.3
Miscellaneous	3	5.0

are seeking candidates with more human relations skills and more education. The nature of some comments intimate that managers feel greater education increases the probability a candidate will have more effective human relations skills. Respondents frequently stated that they are now less concerned with "technical competence as an hourly worker," and "seniority." There is more supervisor recruiting from outside the department or even the firm. This may be an independent policy or a necessity given the new recruitment criteria cited.

These changes in the selection criteria, not surprisingly, parallel some of the changes in first-line supervisor characteristics during the last ten years. In Table 24, the change mentioned most frequently (by 50% of the respondents) was greater educational attainment, with thirty percent specifically citing an increased placement of college graduates in supervisory positions. The second most often mentioned change (36%) was a trend toward younger supervisors. This was followed in order by increases in the selection of outside candidates (25%), minorities (21%), and women (21%).

These changes in the selection criteria, not surprisingly, parallel some of the changes in first-line supervisor characteristics during the last ten years. In Table 24, the change mentioned most frequently (by 50% of the respondents) was greater educational attainment, with thirty percent specifically citing an increased placement of college graduates in supervisory positions. The second most often mentioned change

Table 24: Changes in Supervisors Over Last Ten Years (N = 126)

Type of Change	Number Mentioning	Percent Mentioning
More educational attainment	63	50.0
Younger	45	35.7
More college graduates	38	30.2
More hired from outside	31	24.6
More minorities	27	21.4
More women	26	20.6
More handicapped	3	2.4

(36%) was a trend toward younger supervisors. This was followed in order by increases in the selection of outside candidates (25%), minorities (21%), and women (21%).

These, then, are the characteristics which are becoming increasingly more common among first-line supervisors. They are people who come from outside the ranks of hourly workers, have attained more schooling, are women or minorities, and have more effective human relations skills and less outstanding technical skills. To the degree that applicants have these characteristics, they are more likely to be hired than they were ten years ago. Likewise, outstanding technical competence and greater seniority are less valuable than a decade ago. Since one must become a first-line supervisor to be eligible for the WMDP, factors that increase or decrease the probability of being chosen to be a supervisor, thereby, increase or decrease, respectively, the chances of receiving training in the WMDP.

Selection for WMDP. How, then, are supervisors selected for the WMDP training? The first consideration is again identifying the person or persons who make this selection. Respondents to the TDQ were asked to rate positions or groups who had possible influence on participant selection. Table 25 demonstrates that as with other aspects of training policy, the plant manager was designated as most influential by 58.9% of respondents. About half as often (29.8%), the immediate superiors were rated more influential in choosing trainees. Personnel managers were rated first only 18.7% of the time.

Table 25: Most Influential Person or Group in the Selection of Participants for WMDP by Plant Size

Chief Influence in Participant Selection	Size of Plant by Number of Employees							
	1-24	25-99	100-249	250-499	500-999	≥1,000	No Info.	Total
Plant manager	4	11	21	16	8	9	14	83
%	80.0	61.1	87.5	64.0	40.0	50.0	45.2	58.9**
Immediate supervisor	0	4	5	5	12	3	13	42
%	0.0	22.2	20.8	20.0	60.0	16.7	41.9	29.8
Personnel manager	0	3	4	4	5	4	6	26
%	0.0	16.7	16.7	16.0	25.0	22.2	19.4	18.4
Training manager	0	1	1	1	2	4	1	10
%	0.0	5.6	4.2	4.0	10.0	22.2	3.2	7.1
Advisory committee	1	0	0	1	1	0	0	3
%	20.0	0.0	0.0	4.0	5.0	0.0	0.0	2.1*
Total	5	18	24	25	20	18	31	141

*Some respondents rated more than one alternative "most influential."

**Percentages are column percentages.

Training managers and advisory committees were seldom mentioned.

Table 25 also shows how the selection of "most influential" relates to plant size. Plant managers were the most frequently mentioned as most influential among all but one category of plant size, but they were most influential in smaller plants.

Participant Selection Criteria. One of the two most important criterion, shown in Table 26, is being a new supervisor. Many plants use the WMDP as part of the early training for first-line supervisors. Equally important is supervisors' promotion potential. It was rated most influential by 51.8% of the respondents, while being a new supervisor was mentioned by 53.9%. The majority of those who select participants are sending new supervisors who have potential for moving into middle management positions. About three-fourths of the respondents rate these two criteria as either "very influential" or "moderately influential."

Other factors were rated very influential for smaller groups of respondents. About a fourth of the respondents answered that every supervisor in their plants was sent eventually. Slightly over one in ten listed "learning ability" and "reward for good performance" as very influential criteria.

The latter response is interesting insofar as the top two administrators of the WMDP regard reward for good performance as one of the top rated objectives for sending supervisors to the WMDP. This disparity indicates either WMDP's mistaken

Table 26: Criteria for Selecting Participants for the WMDP Rank by Number of Respondents Who Rated Them "Very Influential" (N = 141)

Criteria	Number of Respondents	Percent of Respondents
New supervisors	76	53.9
Promotion potential	73	51.8
Every supervisor eventually	37	26.2
Objective evaluation	25	17.7
Reward for good performance	16	11.3
Learning ability	15	10.6
Part of unit planned for change	14	9.9
Seniority	8	5.7
Voluntary	7	5.0
Scores on test	4	2.8
Other	5	3.5

assumption or a motivation plant management is not willing to admit.

Some factors very infrequently mentioned are significant also. Seniority, a criterion of declining importance in selecting candidates for first line supervisors' positions, was also of little importance in choosing WMDP participants. And, learning ability, usually an important factor in picking candidates for learning programs, was mentioned by only eleven percent of the respondents. This fact works to produce for WMDP instructors and program designers a group of students with very uneven ability levels.

Method of Program Evaluation. The final consideration which determines how ongoing decisions about the program are made is the method of evaluation. Once a firm begins using the WMDP for supervisory training, rational policy making practice suggests they develop a method of feedback to determine the benefit gained from the training. Therefore, respondents to the TDQ were asked to rate methods of evaluating the results of supervisors' participation in terms of how important each method was to their plants' evaluation processes. The results are presented in Table 27.

Less formal methods are used most often, and most often rated as very important. To answer the question of whether the more formal evaluation methods are more often used in plants with full-time managers for the training function are absent, the cross-tabulation of the "number of training managers" by

Table 27: Average Ratings Given to Various Methods for Evaluating Results of Participation in WMDP

Methods	# Rating "1" (Rank)	# Who Use Method (Rank)	Average* (Rank)	Adjusted** Average (Rank)
Informal observations	69 (1)	121 (1)	1.47 (1.5)	1.68 (1)
Informal conversation with participants	65 (2)	119 (2)	1.47 (1.5)	1.72 (2)
Evaluations of supervisors' immediate supervisors	59 (3)	114 (3)	1.60 (3.0)	1.92 (3)
Line managers' opinions	43 (4)	108 (4.5)	1.79 (4.0)	2.20 (4)
Participants' word of mouth comments	27 (5)	108 (4.5)	2.09 (5.0)	2.44 (5)
Evaluation of turnover, waste rates, etc.	26 (6)	104 (7)	2.20 (7.0)	2.58 (7)
Participants' written evaluations	25 (7)	107 (6)	2.14 (6.0)	2.49 (6)

*Counts ratings of only those who use the method.

**Counts non-users as lowest rating and figures them into the computation of the average.

Note: Respondents were allowed to rate as many as appropriate "very important."

the several methods was run. Then the methods were ranked according to the frequency of "very important" ratings by plants with full-time training managers and by plants with no training managers or only part-time managers. The results are presented in Table 28.

The method used most in plants with a full-time manager, "participants written evaluations," is the one least used in plants with no full-time people. In both categories of plants, the evaluation of the participants' immediate superior was the method ranked second in "very important" ratings. It may be that in plants with full-time training managers, the immediate superior submits a written evaluation, and in those without full-time, his evaluation is informal; the questionnaire item did not distinguish. In either group participants' immediate superior is an important evaluator.

Summary. In summary, several characteristics of plants' decision-making on training policy stand out. With regard to who makes the relevant decisions, at all points - needs determination, supervisor selection, and WMDP participant selection - the line managers are more influential than personnel and training managers. This is true no matter which questionnaire the questions were drawn from, and is more significant still considering that more personnel managers by far answered the PMQ than line managers answered the TDQ.

The second general statement supported by the survey results is that selection criteria and selection procedures for

Table 28: "Very Important" Rating Frequencies in Plants With Full-Time Training Managers and in Those Without Full-Time Training Managers (N = 141)

Methods	Frequency		Percent		Rank	
	FT	Non-FT	FT	Non-FT	FT	Non-FT
Participants' written evaluations	14	21	54	18	1	6
Evaluation of supervisors' immediate superiors	13	46	50	40	2	2
Informal talks with participants	11	37	42	32	3	3
Informal observations	10	51	38	51	4	1
Line managers' opinions	9	34	35	30	5	4
Evaluation of turnover, waste rates, absenteeism, etc.	4	24	15	20	6	5
Participant's word of mouth comments, "grapevine"	3	23	12	20	7	5

Note: Respondents were allowed to rate as many as appropriate "very important."

supervisors and for participants in the WMDP are different than they were ten years ago. As a result, supervisors and program participants are more likely to be younger, have completed more schooling, have less seniority, and be women or minorities.

Finally, responses to the surveys suggest that the influence of full-time training staff is limited to narrowly defined activities very directly related to training programs. Full-time training managers appear to make a difference in methods of evaluating training program participation, but their influence on selecting training program participants or determining training needs is less than proportional to their numbers.

Relationship of WMDP to Training and Other Functions in Plants Surveyed

In addition to the decision making process, another variable which effects the viability of college-based management training programs is the way plants fit the WMDP into their overall training program and the priority of training among plants' other functions such as production, sales, and marketing. The concern is with placement in reference to the organizations' non-training processes and objectives, other methods for meeting the same or similar organizational needs, the sequence of training for supervisors, other training sources, time and the developmental stages of the training function in the organization.

Relationship to plants' non-training functions

What priority do the two different types of organizations place on training? The questionnaires asked respondents how the use of the WMDP is funded and the level of support afforded to training's goals and outcomes. De facto funding policy with reference to profits gives evidence of how the training function relates to production and profits. As shown in the last column of Table 29, among the respondents to the PMQ, just under half (48.4%) stated they based their participation on current needs. But, 42.9% of the respondents said they based participation on whether they were experiencing healthy profits. They were also asked whether they had "cut back on training because of the current recession" (1980). Only about thirty-five percent said they had cut back, while sixty-two percent said they had not. It is hard to make a precise comparison of the two answers, because the second question assumes the recession had reduced their profits. For some companies, this is not the case. Still, over two-fifths of the plants report they are prepared to cut back on training when profits decline. More than a third of those who have sent participants in the last two years have reduced their participation. An examination of the number of participants per year from 1951-52 through 1979-80 illustrates a clear decline in participation over the last two years, after two years of recovery in 1975-76 and 1976-77. However, the drop in the last two years is not as sharp as the drop during the most recent previous recession, 1973-74 and

Table 29: Cross Tabulation of Basis for Training Decisions with Reference to Profitability by Number of Local Full-Time or Part-Time Training Managers

Basis of Training Decisions	Local Training Managers: At Least 1 Full-Time Manager		Only Part-Time Manager		No Managers Responsible for Training		Totals	
	Col. %	No.	Col. %	No.	Col. %	No.	Col. %	No.
Current needs	61.9	13	44.8	26	42.4	14	47.3	53
Current profits	33.3	7	44.8	26	45.5	15	42.9	48
Use slow period for training	0.0	0	5.2	3	3.0	1	3.6	4
Other	4.8	1	5.2	3	9.1	3	6.3	7
Totals	100.0	21	100.0	58	100.0	33	100.1	112*

*A total of 14 responses missing due to some respondents not answering one or both questions.

1974-75. The 1977-1980 economic downturn was as severe as that in 1973-75, but managers may now, like the society as a whole, be reacting less strongly on the assumption they cannot merely "wait it out." They may also have accumulated a backlog of necessary supervisory training needs which must be met. Yet, for a very significant portion of the WMDP's potential clients, poor economic times consciously result in reductions in participation. This is especially significant for the WMDP because its clientele continues to come in greatest proportions from the type of industries which are most vulnerable to recessions, the manufacturing, especially the lower technology manufacturing sector, rather than the services and high technology sectors.

Other factors help explain why some companies relate participation levels to profitability. Clearly, the presence of full-time training managers is positively related to making training program participation decisions based on "current needs," as Table 29 illustrates. In the total group of respondents, forty-seven percent (47%) of respondents based participation decisions on current needs. But, among those plants which have at least one full-time training manager, sixty-two percent (62%) base these decisions on current training needs. Only thirty-three percent in this group base their decisions on profitability, compared with forty-three percent among all respondents.

Table 30: Cross-Tabulation of Basis for Training Decisions with Reference to Profitability vs. Current Needs with Who Has Authority to Begin, Continue or Discontinue Outside Training Use (N = 126)

Basis for Training Decisions	Authority Over Training Decisions: Training Director		Plant Manager		Production Manager		Personnel Manager		Central Office		Finance Manager		Other		Totals	
	Col.%	No.	Col.%	No.	Col.%	No.	Col.%	No.	Col.%	No.	Col.%	No.	Col.%	No.	Col.%	No.
Current needs	81.0	17	44.3	39	70.0	14	48.3	29	48.0	12	0.0	0	50.0	9	48.4	61
Current profitability	19.0	4	48.9	43	15.0	3	46.7	28	40.0	10	50.0	1	38.9	7	42.9	54
Use slow period for training	0.0	0	1.1	1	0.0	0	1.7	1	4.0	1	50.0	1	5.6	1	3.2	4
Other	0.0	0	5.7	5	15.0	3	3.3	2	8.0	2	0.0	0	5.6	1	5.6	7
Totals Row %, #	16.7	21	69.8	88	15.9	20	47.6	60	19.8	25	1.6	2	14.3	18	100.0	126

The answers to questions about the effect of profitability and current needs on participation decisions were cross-tabulated with information about what positions in the plant have authority over initiating, continuing, or discontinuing training. As shown in Table 30, plants in which training directors were named have a disproportionately high number who base these decisions on current needs, and a relatively small fraction who base these decisions on profitability. Those plants in whom the production manager is named as one of the positions having authority over training decisions also showed a relatively large number basing their decision on current needs and a relatively small number basing their decision on profitability. Plants naming plant managers, personnel managers, and the central office among those having training decision authority responded according to overall proportions about the influence of current needs and profitability.

Finally, a factor expected to have influence on whether plants base training decisions on profitability does not prove to do so in this sample. One could reason that larger companies might be more prone to base their decisions on current needs, arguing that they tend to be more sophisticated about training generally. This is, however, not the case.

Relationship to other methods used to improve supervisory performance

Because training is only one policy approach to improving supervisors' performance, the study inquired where training

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Relationship to other methods used to improve supervisory performance

Because training is only one policy approach to improving supervisors' performance, the study inquired where training

such as the WMDP fit in relation to other approaches. Respondents to the PMQ were asked to rate methods for improving supervisors' performance which they use in their plants. They rated only those which were used in their plants. Six distinctly different approaches were presented:

(1) Job restructuring.

(2) Training middle managers (supervisors' superiors) to different expectations of, and approaches to, working with supervisors.

(3) Introduce new technology.

(4) Revise selection criteria.

(5) Supervisory training, for attitude change or for behavior change.

(6) Make more counseling available to supervisors who are having a difficult time with their jobs.

Approaches 1, 2, and 3 emphasize the role of the supervisors' environment as the cause of less than optimal performance. Approaches 4, 5, and 6 identify the supervisor as the locus of performance problems. The major works in the literature on first line supervisors all conclude that the supervisors' environment must be taken into consideration in decisions about how to improve their performance (e.g., Patten, 1968 and Thurley and Wirdenius, 1972).

The ratings for the several methods differ according to the way in which they are evaluated. When methods are ranked only in terms of the portion of respondents rating them "very effective," the top ranked method is to revise the selection criteria, as shown in Table 31. However, when methods are

Table 31: Ranking of Approaches Plants Use to Improve Supervisors' Performance by Percent of "Very Effective" Ratings and by Mean Rating Score

Method	% Respondents Rating "Very Effective"	Rank	Mean Score	Rank
Selection criteria	47.6%	1	2.02	3
Training for attitude	42.1%	2	1.83	1
Training for behavior	37.3%	3	1.95	2
Provide counseling for supervisors	31.7%	4	2.24	4
Introduce new technology	25.4%	5	2.54	6
Train middle managers	20.6%	6	2.56	7
Restructuring supervisor position	19.8%	7	2.413	5

ranked according to their mean rating, a measure which also takes into account the number of plants which use the method and the overall distribution of ratings, the rankings change.

Regrouping the data by company size and degree of specialization in the training function reveals some further insights about how the different groups go about improving supervisors' performance. Smaller companies, specifically those who have less than 1,000 employees, ranked restructuring highest among the given methods, whereas larger companies ranked this method lowest based on overall rating score. Company size made no consistent difference with reference to the other six methods in overall ratings. This may be attributed to the fact that it is easier to rearrange smaller numbers of people, and therefore it can be done more effectively in smaller companies than in larger ones.

One would expect plants with full-time training managers to approach the improvement of first line supervisors' performance differently than plants which have only part-time or no managers with responsibility for training. It is the plants with full-time training managers who rank revising selection criteria higher. In fact, they rank it first. And, they rank restructuring supervisors' positions last in contrast to the other two groups which rank this method fifth. Perhaps training managers feel strongly that they should recruit personnel who are best equipped to benefit from training. And, perhaps they feel that the restructuring alternative is a method which is

outside their area of expertise. Whatever the reason, it is interesting that plants which in terms of their staffing patterns may be regarded as most sophisticated, reject most strongly the method alternative which many academic observers rate as most essential to improving supervisors' performance.

Sequence in which training programs are used

The sequence in which their training is arranged is a third issue in first line supervisors' training policy. The most basic question is whether they are trained before taking the position or afterwards. Until very recently, the most common practice was to provide no training. Supervisors learned their jobs by trial and error. To obtain data relevant to this question, respondents to the TDQ were asked to indicate their approach to using the WMDP. Their responses are summarized in Table 32.

Table 32: WMDP's Uses in Plants' Overall Training Strategy for First Line Supervisors

	# of Plants	% of Respondents
In addition to our own training	89	63.1%
Refresher training	74	52.5%
For all newly appointed supervisors	73	51.8%
All supervisors attend	30	21.3%
To improve poorly performing supervisors	27	19.1%

Clearly over three-fifths of the plants responding do not rely on the WMDP as their sole source of training. However, more than half of the responding plants use it as at least a portion of the initial training sequence for all newly appointed supervisors.

Company size has little predictive power as to how plants use the WMDP. The only clear pattern produced in a cross-tabulation with company size is that companies with less than 5,000 employees are far more likely to use the program as a regular component of training for newly appointed first-line supervisors. This is consistent with the idea that they are too small to launch a training program of this type in-house.

The degree of specialization of personnel staff for training appeared to be a determinant of whether plants use the WMDP for certain purposes. Plants who have no managers with responsibility for training use the WMDP only as a supplement to their own training. Plants with at least one full-time training manager were the only group to mention using the WMDP for the narrowly targeted purpose of improving the performance of poorly performing first level supervisors. They also tended not to mention the WMDP's being used in addition to their own training. The data from this cross-tabulation suggest that the WMDP tends to have a more specifically defined and more central role in those plants which have full-time training managers. Plants with only part-time managers in training followed the sample-wide pattern in their use of the WMDP.

Supervisors were asked a more general question about the sequence of training in their plants. They were asked to indicate when their training for the first-line supervisor position occurred with reference to when they started as first-line supervisors--before, after, both, or neither until they attended the WMDP. The responses are displayed in Table 33.

Table 33: When Supervisors' Training for First-Line Supervisor's Position Occurred (N = 123)

When Training Occurred	Number	Percentage
Before and after becoming a supervisor	55	44.7%
Before appointment to supervisor	10	8.1%
After appointment to supervisor	36	29.3%
Never received training before the WMDP	22	17.9%

It is interesting to note that while 52.8% of the respondents received some training for their job before they assumed the position, 47.2 percent received no training before they took the position of first-line supervisor. For 17.9 percent of the respondents, the WMDP was their first training.

Cross-tabulations with other variables yield results only in the relationship between timing of a supervisor's first

training and the number of years he or she had been a supervisor. Respondents who had been supervisors for six years or longer were twice as likely to have had training only after they had assumed the position. This supports the notion that within recent years, there has been a trend to provide more training for first-line supervisors, and provide it sooner.

Relationship of WMDP to other sources

The source of training is a fourth dimension of plants' supervisor training approach within which the WMDP is to be evaluated. Respondents to the TDQ were asked to indicate first, whether they used other outside training sources and then to rate the various sources of training they use. Supervisors were also asked to rate different types of training they receive for their jobs.

Substantial proportions of the responding plants use other outside sources. Almost three-fourths of the respondents (73.8%) use other outside sources, and over two-fifths (41.8%) use other college programs. These questions do not, however, specify that the other sources are for supervisory training. Plants who have no managers assigned responsibility for training were only three-fifths as likely to use other college programs. This is consistent with findings concerning other aspects of training which indicate that the presence of training managers increases the volume and diversity of training activity in the plants studied.

Respondents to the TDQ were also asked to rate the sources which they use for supervisors' training in order to find out which sources they regard as most beneficial. Their responses are summarized in Table 34 in terms of both the average rating score and the number of respondents who gave each source the top rating of "very beneficial."

Table 34: Ratings of Sources of Training (N = 141)

Source	Mean Score	Mean Score Rank	% "Very Beneficial" Ratings	Rank	LM* Mean Rating	PM* Mean Rating
WMDP	1.69	1	51.1%	1	1.62	1.78
Tuition reimbursement	1.86	2	41.4%	3	2.28	1.89
Plant design	1.90	3	46.8%	2	2.49	1.95
Central office	2.43	4	31.6%	4	2.92	2.42
Professional association	2.65	5	14.0%	6	2.69	2.66
Independent consultant	3.17	6	14.5%	5	3.18	3.05

*LM - Line Managers; PM - Personnel Managers

Personnel function managers generally gave training sources of any kind better ratings than line managers, with the

one exception of the WMDP, which they gave a slightly lower rating than line managers.

Responses were also compared with reference to the degree of staff specialization of the training function in the plants, and are shown in Table 35. Plants with part-time training managers gave a greater percentage of "very beneficial" ratings to every source of training except tuition reimbursement. Both gave the highest percentage of top ratings to the WMDP. In plants with full-time training managers, however, a higher portion of the respondents gave highest ratings to every source except outside consultants, to which they gave a lower number of top ratings than plants with no training managers. And, although they gave the WMDP the higher percentage of top scores than plants with no or only part-time training managers, they ranked it behind both plant designed programs and tuition reimbursement. The interpretation is that their evaluation reflects their perspective. That is, they would be expected to rate programs they designed highly, and they would be expected to be skeptical of training people coming from the outside into their sphere of responsibility.

Finally, the general ratings and the more specific regroupings of the responses support the hypothesis that business firms are more positively inclined toward other formal organizations which have a purpose other than simply training. This is based solely on the observation that independent consultants and professional organizations were clearly the lowest rated training sources.

Table 35: "Very Beneficial" Ratings of Training Sources with Reference to the Number of Training Managers in the Plants (N = 141)

Source	No Training Managers (% # Rank)	Only Part-Time Training Managers (% # Rank)	Full-Time Training Managers (% # Rank)	Total (% # Rank)
WMDP	44.9% 22 1	49.2% 32 1	53.8% 14 3.0	48.9% 69 1
Plant designed	36.7% 18 2	40.0% 26 2	57.7% 15 1.5	41.1% 58 2
Tuition reimbursement	34.7% 17 3	30.8% 20 3	57.7% 15 1.5	37.6% 53 3
Central office	22.4% 11 4	24.6% 16 4	34.6% 9 4.0	25.5% 36 4
Professional association	8.2% 4 5	13.8% 9 6	11.5% 3 5.0	12.0% 16 5
Independent consultant	8.2% 4 6	15.4% 10 5	7.7% 2 6.0	11.3% 16 6
Totals	(49)	(65)	(26)	(141)*

*Sum of column totals actually totals only 140 because there was one "No Answer."

Of course, there is the distinct possibility that the WMDP's high rating may be attributed to the fact that the study focused on the program and was endorsed in some respect by the program. But, it is not possible to verify that such a bias did or did not exist.

The supervisors were also questioned about the different sources of training in two separate questions. First, they were asked to rate the helpfulness of various types of training they experienced in learning the job of first-line supervisor. In this question, their choices included various kinds of informal learning including discussions with other supervisors, on-the-job coaching, and reading on their own. Table 36 summarizes the responses to the first question.

Respondents appear to learn their jobs primarily through informal, non-programmatic learning. The two top ranked choices in terms of percentage of "very helpful" ratings are informal learning experiences, and five of the top six ranked choices are informal learning. Among the more formal classroom forms of training, supervisors responding clearly prefer training which takes place away from the plant.

The ratings of the different types of training were not apparently influenced among the respondents by any of the variables such as level of educational attainment, industrial group, or age.

The second question for supervisors about different sources of training is similar in its alternatives to the question

Table 36: Helpfulness of Types of Training in Learning Supervisor's Job (Ratings of "Very Helpful and "Moderately Helpful" (N = 123)

Types of Training	Respondents Rating "Very Helpful"		Respondents Rating "Moderately Helpful"		Totals	
	%	#	%	#	%	#
Discussing job with other supervisors	31.7%	(39)	37.4%	(46)	69.1%	(85)
Reading on my own	23.6%	(29)	41.5%	(51)	65.1%	(80)
On job coaching from immediate supervisor after starting as supervisor	30.9%	(38)	26.0%	(32)	56.9%	(70)
Classroom training during hours, away from plant	29.3%	(36)	26.0%	(32)	55.3%	(68)
No training, learned on my own by trial and error	28.5%	(35)	22.0%	(27)	50.5%	(62)
On-job-coaching from my immediate supervisor before starting as supervisor	26.0%	(32)	18.7%	(23)	45.7%	(55)
Programmed instruction	8.1%	(10)	30.9%	(38)	39.0%	(48)
Classroom training, after hours, at plant	21.1%	(26)	15.4%	(19)	36.5%	(45)
Classroom training, during hours, at plant	9.8%	(12)	25.2%	(31)	35.0%	(43)
Classroom training, after hours, at plant	4.1%	(5)	14.6%	(18)	19.7%	(23)

answered by the respondents to the TDQ. Supervisors gave similar ratings to common choices; they overwhelmingly rated the WMDP as the most helpful. They rated the WMDP "very beneficial" in helping them learn their jobs more often than other formal training programs by an overwhelming margin. Over fifty percent rated the program "very helpful," and almost ninety percent related the WMDP at least moderately helpful. The second most often named program was in-plant programs. Among the alternatives they shared in common with respondents to the TDQ, the supervisors named the same two programs in the top two ranks, but in lower ranked programs, they chose outside consultants' programs over those sponsored by professional associations, while managers had them in the reverse order. Table 37 illustrates these findings.

The level of educational attainment showed little influence on supervisors choices among different programs. The average ratings and the percentage of "very helpful" ratings increased as the number of WMDP units increased.

In summary, the data concerning sources of training support three general statements. Both managers and supervisors rate the WMDP higher than all other training program sources, with one exception. Plants in which there are full-time training managers named in-house programs and tuition reimbursement more often than the WMDP by a narrow margin as a "very beneficial" program. Second, supervisors when given the opportunity to rate informal learning together with formal training

Table 37: Supervisors' Evaluation of Helpfulness of Types of Learning Programs in Learning Your Job as First-Line Supervisor (Ratings of "Very Helpful" and "Moderately Helpful") (N = 123)

Type of Program	Respondents Rating Very Helpful		Respondents Rating Moderately Helpful		Totals	
	%	#	%	#	%	#
WMDP	52.8%	(65)	35.0%	(43)	87.8%	(108)
In plant programs produced by plant personnel	29.3%	(36)	35.8%	(44)	65.1%	(80)
Plant programs by outside consultants	21.1%	(26)	29.3%	(36)	50.4%	(62)
Other college based programs	15.4%	(19)	18.7%	(23)	34.1%	(42)
Professional association programs	12.2%	(15)	14.7%	(18)	16.9%	(33)

programs, said they learned their jobs primarily through informal learning. Third, at this point, almost three quarters of the responding plants use more than one outside source of training.

Organizational support for training outcomes

The last dimension describing the place of the training function generally, and the WMDP specifically, within the plants surveyed is organizational support. There is a consensus in the literature on training, and the personnel function in general, that general and widespread organizational support, especially from top line management is a necessary condition for success, especially in the long term. Thus, the survey asked all three groups of respondents whether the changes the WMDP has succeeded in making in supervisors' performance are supported when they return from Worthingham to their plants' sites. The data from the three questionnaires is summarized in Table 38 below.

As one might expect, the managers posit more support than supervisors experience from their perspective. The proportion of supervisors giving an unqualified "Yes" is about ten percent less than the respondents to either the PMQ or the TDQ. When qualified affirmative responses are combined with clear "Yes's," the gap is narrowed. But, the proportion of supervisors denying support in their plants (14.6%) is more than nine times the proportion of PMQ (1.6%) respondents and almost seven times that of TDQ (2.1%) respondents.

Table 38: Support for Objectives Accomplished According to Respondents to PMQ, TDQ, and SQ

Answer	PMQ		TDQ		SQ	
	%	#	%	#	%	#
Yes	40.5%	(51)	41.8%	(59)	31.7%	(39)
To some extent	40.5%	(51)	36.9%	(52)	45.5%	(56)
No	1.6%	(2)	2.1%	(9)	14.6%	(18)
Don't know	8.7%	(11)	6.4%	(9)	1.6%	(2)
No answer	8.7%	(11)	12.8%	(18)	6.5%	(8)
Totals	100.0%	(126)	100.0%	(141)	100.0%	(123)

CHAPTER V

CONCLUSIONS, IMPLICATIONS, AND RECOMMENDATIONS

Overview

This chapter has two purposes. The first is to discuss whether the findings of this study provide evidence suggesting that college-based management training for user clientele of manufacturing plants is a viable adult education program. Viability depends upon factors internal to the program, the WMDP, and its sponsoring institution, Worthingham University, as well as factors internal to the users, the manufacturing plants and their first-line supervisors.

The discussion, therefore, begins with the conclusions of the program analysis of the WMDP. This discussion will suggest to what extent the WMDP's success may be explained by program performance related to the objectives of its users. In addition to the program itself, this discussion draws special attention to structural aspects of the WMDP's operation in the university and in the plants. These aspects are (1) the university providing the WMDP virtual autonomous and separate status within its organizational structure, and (2) the plant's decision as to hiring full-time training specialists. The question is what difference these structural provisions have made in the WMDP's operation and its outcomes.

The chapter's second purpose is to discuss the findings' implications for (1) related policy issues raised in the literature and (2) further research into questions about industrial college-based management development training for supervisors. The issues addressed relate primarily to how the results of the above-mentioned policies, and similar policies regarding other programs, may affect adult learning opportunities generally.

Evaluation of the WMDP

The University's Policy to Sponsor the WMDP

An examination of this policy at Worthingham University reveals the WMDP has experienced many of the difficulties typically described in the literature about adult education programs in higher education. Three objectives are cited for the WMDP within the university: (1) to provide revenue for Worthingham's general fund, thus helping it avoid fiscal deficits, (2) to provide an alternative assignment for under-utilized faculty, and (3) to generate general support among the university's contributors. An objective mentioned in the literature, offsetting declining undergraduate enrollments, is not an objective for the WMDP at Worthingham, but enrollments have not yet dipped there, and the university's administration chooses not to see this as a major problem for the future. Within the framework of program analysis followed in this study, the discussion bears on the effectiveness, adequacy, and appropriateness of the program.

Effectiveness and Adequacy

The effectiveness and adequacy of this policy in realizing the first objective are difficult to determine. For years under the WMDP's first director, the program was understood to turn a generous profit for the university. Now that a new formula has been applied to figuring the School of Community Education's overhead charge, the profit has been turned to a deficit. The new formula may not be the sole cause of the fiscal turnabout. It may be partially accounted for by the recent decline in WMDP enrollments. Still, during the 1978-1979 program year, the WMDP contributed to the general fund under the former formula but showed a deficit under the new formula. Interestingly, the provost, who initiated the new formula, creating a paper deficit, states the WMDP's revenues as one of the program's benefits to Worthingham.

The WMDP only indirectly accomplishes the second objective, providing an outlet for using otherwise excess faculty. In the past, regular faculty have been singularly unsuccessful as instructors in the program. However, insofar as the WMDP revenues subsidize non-credit courses in the School of Community Education, it may help realize this objective. But, once again the more constraining budgetary formula leaves less revenue to be used as a subsidy.

The last objective cannot be closely monitored and evaluated for the future. It is clear that the WMDP's existence and the work of the first WMDP director were instrumental in

garnering the base funding for the Adult Learning Center, which is used by the entire campus. But, aside from such large capital projects, it is difficult to determine the connections between the WMDP and monetary contributions to the university.

Appropriateness

The appropriateness of this policy for any of these objectives seems to be at the heart of the confusion and uncertainty about determining effectiveness and adequacy. The provost and president question whether, as a liberal arts university, Worthingham should sponsor the WMDP. Their positions are ambiguous. On the one hand, they acknowledge the program's potential fiscal benefit to the school's liberal arts programs. On the other hand, they regard it as basically inconsistent with the university's liberal arts mission. This is reflected in the way they have addressed the budgetary issue. The decision to charge the WMDP two-thirds of its faculty and staff salaries as its overhead is apparently arbitrary. No one has made an attempt to determine precisely, rather than indirectly estimate, the program's costs to the university. If the WMDP were regarded as more central to Worthingham's mission, a more detailed effort to determine and justify its fiscal position might be made.

The Policy Concerning the WMDP's Special Autonomous Status

Effectiveness, Adequacy, and Appropriateness

The WMDP's special status during its first twenty-nine years provided a climate in which it grew and prospered.

Autonomy allowed the program's director to decide quickly about program policy unencumbered by the criticism other adult education programs receive on many campuses. This policy, however, was ineffective in achieving for the program the security of institutionalization. The program has no base of institutional support in the university's informal political process beyond the support of its own administrators. In any case, the objectives for its autonomy have never been established.

The effectiveness of new policies, which have been established recently in an effort to bring the WMDP and the School of Community Education into greater administrative consistency with the rest of the university, are difficult to evaluate because their objectives also have not been made clear. Likewise, the adequacy and the appropriateness of the new policies cannot be addressed without having objectives as reference points.

One of these new policies, applying greater fiscal demands upon the WMDP, may be intended to spur more creative ventures into new markets, although the policy's intention is not clearly stated. It may also result in a retrenchment strategy as the WMDP director seeks to reduce program fiscal losses. Ironically, it is least likely to produce a program which incorporates aspects of the liberal arts which the president and provost have suggested. Managers at the plants indicate they want content which is directly related to skills, knowledge and attitudes demanded in the workplace--not consideration of lifestyle, ethical, or even general economic issues.

Clark (1968) concluded as a program becomes more dependent on the market for its economic survival, it becomes less able to adhere to predetermined institutional values and objectives. Ironically, as long as the president and provost regard the pragmatic, "vocational" character of the WMDP curriculum to be in serious conflict with Worthingham's liberal arts mission, requiring a greater overhead contribution is likely to result in the exacerbation of this conflict.

Manufacturing Plants' Use of the WMDP to Improve First-Line Supervisors' Performance

Effectiveness

A program's effectiveness is defined in terms of the degree to which it meets its objectives. Against this criterion, it is difficult to evaluate the WMDP's effectiveness for the plants for several reasons. As a group, there is a high level of agreement on only the very generally stated objective of "improving leadership ability." There is also, at both individual and aggregate levels, a low degree of match between objectives rated as "very important" and outcomes rated as "accomplished very effectively." Thus, it appears that the WMDP has not successfully met the objectives plant management personnel set for it.

There is evidence, however, that these same people approve of the program. They consistently rate it, along with tuition remission and their own in-house training, as one of the top three types of training used for first-line supervisory training. They also indicate an ongoing active approval in that

approximately 60% of the plant managers who do not indicate training cutbacks due to economic conditions state they plan to send participants in the foreseeable future; only 8% of this group state they do not.

There are several possible explanations for the continued satisfied use of the program despite a lack of objective/outcome matches for most users. First, the match between objectives and outcomes may not be the most important measure of success upon which managers base decisions about training program use. They may, for example, be satisfied to know, or feel, the WMDP is accomplishing some outcomes "very effectively," regardless of which ones they are. Even those respondents who indicated a very low percentage match between objectives and outcomes rated some outcomes as "very effectively" accomplished.

A second explanation for approval in the absence of objective/outcome matches has to do with who decides about the use of outside sources of training and the evaluative information with which they work. For most important decisions influencing training (viz., determination of training needs, use of outside sources, the initiation and termination of training programs, and selection of WMDP participants), line managers are the chief influencers. They do not have day-to-day responsibility for, nor involvement with, supervisory training once these decisions have been made. And, for most line managers, the results of only informal methods of program

evaluation are available. It is likely, therefore, that line managers are making the important training decisions based on only general, anecdotal evaluative information.

The relationship of the WMDP to plants' other training strategies for first-line supervisors also puts it in a position where it will not be scrutinized. The greatest proportion of responding plants use the WMDP as a supplement or a refresher for other types of supervisory training. As only one among many training components, the WMDP has much less of the eventual outcome burden to bear for supervisory performance. It may be hard to pinpoint which components of the supervisors' overall training programs are responsible for less-than-adequate performance.

An additional factor supports the notion that training is not evaluated strictly in terms of its outcomes. The volume of supervisory training through the WMDP is clearly a function of a company's overall profitability. This is apparently not true of all plants, especially when the training function is staffed by full-time specialists. But, the trend over the last ten years graphically demonstrates that as the economy declines, the usage of the WMDP drops accordingly. This type of training is apparently viewed as a cost rather than an investment. It is not seen as a means of improving the profitability position itself.

Finally, the WMDP, and training in general, may not be closely evaluated, also, because most plants tend to allow

themselves few alternative ways to improve supervisory performance. 'Changing the selection criteria' and 'training' were by far the most often named methods for improving supervisors' performance. Most plants do not use 'supervisory job restructuring,' 'middle management training,' or 'technological changes' to improve supervisory performance outcomes.

Adequacy

The chief measure of any policy's adequacy is whether it is continued. If users project continued use, this demonstrates either their opinion that it is adequate or that there are no better alternatives, or mere force of habit. In addition to the reasons cited in the discussion of this policy's effectiveness, the WMDP and other training may be regarded as adequate simply because supervisors continue to produce at some satisfactory level. And, supervisors may continue to perform satisfactorily because they are internally very highly motivated, regardless of the problems inherent in the position, itself. Respondents to the Supervisors Questionnaire said they gain their greatest satisfaction out of "turning out quality products under pressure." Their strong desire to succeed in this way may, then, render their efforts successful even if their management skills and work environment conditions are less than optimal.

And, there is another factor besides the supervisors high motivation which insures at least acceptable performance from supervisors, thereby lessening the weight of responsibility

placed on formal training such as the WMDP. Most supervisors surveyed in this study report that they learned their job primarily through informal, on-the-job training (e.g., conversations with other supervisors and their superiors, and trial and error). Apparently, then, even without the WMDP or other planned training, the supervisors feel first-line supervisors would acquire a certain base-line level of skills.

It is possible that if plants' management begins to evaluate programs like the WMDP more stringently, or if they begin to give more consideration to alternative solutions to performance problems, then their minimum performance standards (i.e., their criteria for adequacy) might change.

Appropriateness

When compared to the conclusions of major investigators (Patten, 1968; Thurley and Wirdenius, 1972), management development training for first-line supervisors is not by itself appropriate as a complete solution to poor supervisory performance. But, it is clear that managers have identified the supervisor as the locus of the problem rather than middle management's expectations, other organizational policies, organizations' managerial structure, technology, or production process design. This, then, may account for managers' willingness to regard partial success as adequate.

Manufacturing Plants Use of Training Specialist to Manage Supervisory Training

This policy cannot be separately evaluated against the three criteria--effectiveness, adequacy, and appropriateness--because the specific objectives are not known. The study inquired, simply, whether having a full-time training manager resulted in a difference in how training is done. Several differences between plants with and plants without full-time training managers were identified in this study. First, plants with full-time managers targeted the use of the WMDP more specifically. That is, in those plants only, the WMDP was used as a means to assist supervisors who were having special difficulties in performing their jobs. Second, plants with full-time training managers were more likely to use more formal techniques in evaluating the WMDP.

Finally, plants with full-time training managers were even less likely to use means other than first-line supervisory training to improve supervisors' performance. They were more likely, in fact, to rate selection criteria for supervisory candidates as a very effective means of improving supervisory performance. Among the plants in this study, educational attainment has become an increasingly important criterion in the selection of first-line supervisors. Educational attainment is used by many companies as an indicator of trainability (Thurow, 1980). Thus, during the past decade, full-time

training managers may have been instrumental in making trainability--measured in terms of educational attainment--more important as a selection criterion for first-line supervisors.

It can be said that hiring full-time training managers has changed the way training is used to improve first-line supervisory performance. The respondents from plants in this study's population who had full-time managers were far more likely to say decisions to contract for training were based on current training needs rather than profitability, to target supervisory training to improve the performance of especially ineffective supervisors, to conduct more formal evaluation of training used, and to change selection criteria as a means to gain better performance from first-line supervisors. More focused research is required to determine whether these differences in training practice result in better supervising or more efficient use of training resources.

This study indicated also, within the population studied, that the introduction of full-time training managers failed to effect differences one might have expected. While line managers have hired full-time training managers, they have retained influence on decisions which directly shape supervisory training: determination of training needs, initiation or termination of training programs, and selection of participants for the WMDP. It appears that full-time training managers have roles as technical advisors and as administrators of policies determined chiefly by line managers. In cases where

training directors have influence they are at most co-decision makers with line managers in the types of decisions mentioned above.

This finding has policy implications for the WMDP administrators. It implies that they must persuade line managers to use the program, and that they need to maintain ongoing relationships with line managers, even in plants having full-time training managers.

Implications: Related Policy Issues

The purpose of this section is to discuss the implications of the study's findings for adult learning opportunities. The primary implications of this study have to do with the viability of college-based programs offered to a consumer group made up of business organizations. The first check point of viability for such programs is the internal acceptability of such a program within a liberal arts university. The suggested conclusions of this study on this question are qualified and, in the end inconclusive. The WMDP would appear to be quite acceptable after nearly thirty years of uninterrupted operation. But, during those years the WMDP has survived under a special arrangement affording it great autonomy within the university's organization, which may not be replicable elsewhere, and which, in fact, has been changed at Worthingham University. This arrangement exempted the WMDP from the program and curriculum approval channels followed by other

instructional programs on the campus. But, more uniquely, this arrangement exempted the WMDP from the regular budget approval and budget management process. Thus, the WMDP was subject to no faculty review or evaluation, at the initial stage and nor since. As a result, the issue of non-degree management training's incongruency with the mission of a liberal university has never been actively debated in an official faculty forum.

While this appears to have been an advantage the WMDP has had over adult programs discussed generally in the literature, this policy has left the program with no base of internal political support at the university beyond the program's staff. The WMDP's autonomy has been mitigated by decisions made at the upper levels of the university's administration during the last three years covered by the study. Although the chief administrators of the WMDP and the School of Community Education have questioned these decisions, they have had no channel of recourse internally. As some adult educators suggest, then, the implications of this study's findings are that structuring adult and continuing education programs of this sort into the school's administrative mainstream may have long-term benefits which are forfeited when the program is placed at the periphery of the college or university's structure.

The findings of this study indicate that a strong basis for such programs' viability exists among user-plants, especially under particular circumstances. The plants' use of the WMDP does not appear to be related to the results of careful

evaluation of the accomplishment of predetermined objectives. This implies that such programs may be established and survive without having to focus on the narrowly defined needs of any one, or any few, clients. Thus, a program with broadly defined objectives can gain clients from among plants whose needs vary greatly. The findings suggest that perceived success in some areas are sufficient to sustain plant commitments to the program.

The existence of full-time training managers in the plants appears not to be an actual threat to a plant's continued use of the WMDP. Plants in which there was a full-time training manager ranked the WMDP highly among all training sources.

But, the viability of programs like the WMDP depend not only on factors related to the university and the plants which use the program, it depends also on such program's ability to compete with private corporations which are now offering training. The results of this study suggest that colleges and universities may be able to compete successfully for several reasons. Managers in the plants surveyed ranked the WMDP consistently higher than other training sources. This was the case more consistently among plants which had full-time training directors than those who did not. Insofar as the hiring of full-time training professionals is the trend, the trend toward specialization will not harm the program. Responses to the questionnaire suggest that the location of the program on a college campus is valued by managers in the plants. They also

value their direct contact with the university's administrators. Such contact and the operation of the program itself are labor intensive. But, educational institutions are labor intensive and are institutionally better equipped to accept a labor intensive enterprise. Private companies like IBM and Xerox, which are marketing training, are more inclined to reduce human labor and maximize technology and materials which they can sell to companies seeking training for their managers. Colleges and universities have a large internal instructor labor pool from which they can draw personnel who are available for more making personal contacts.

The study's findings imply that the greatest threat to the program is a long period of economic stagnation or decline. While the presence of full-time training specialists mitigates economic factors in favor of training need, the health of the economy is clearly related to expenditures to send participants to the WMDP.

To the extent that they can structure the training program to be responsive to changing needs, they can compete with other sources of training. But, such responsiveness is what some corporate critics state the colleges and universities have not been able to produce. Placing programs for manufacturing plant clients in a department with freedom from procedures designed to assure thorough and conservative review may allow other universities to succeed as the WMDP has in its early autonomy.

A number of the findings from this study suggest that the WMDP generates increased adult learning opportunities--especially the relationship between supervisors' experience in the WMDP and their later additional educational experiences, and the findings about policy changes in the manufacturing plants attributed to their involvement in the WMDP. A sizable proportion of supervisors who went on to be involved in adult learning after their participation in the WMDP acknowledged that this later learning activity resulted from their experience with the WMDP. The questionnaire did not ask them to explain how the two experiences were related. (This question was eliminated to shorten the questionnaire.) One can speculate that it may have (1) provided supervisors a less threatening situation in which to overcome a previously acquired fear of formal schooling, (2) provided them a successful learning experience related to an important life activity and thereby increased their expectancy of learning successfully in the future, or (3) simply generated ongoing interest in previously unfamiliar knowledge fields.

Whatever the nature of the connection, this study indicates that the experience may have produced additional adult learners. This is significant in view of the consistent finding in surveys of adult learners that adults who have had more experience in learning tend more frequently to become involved in later learning than those with less experience (Johnstone and Rivera, 1965; Tough, 1974). These findings suggest, then, that

programs like the WMDP may generate supervisor-participants' increased learning activity, which they pursue in other types of learning programs.

If this suggestion is accurate, then the trend to increase the educational attainment criteria for selection to the first-line supervisor's position has the effect of excluding some less-educated adults from access to additional learning. In this respect, it is important to note that the attribution of later learning to one's participation in the WMDP showed no apparent relationship to educational attainment, except for those supervisors who had attained less than a high school diploma prior to their participation in the WMDP. These participants reported a greater than average tendency to engage in reading on their own after the WMDP experience.

The partnership between these 250 manufacturing plants surveyed in this study and the WMDP increased adult learning opportunities through its effect on organizations as well as its effect on individuals. Involvement with the WMDP was named by many plants as a factor motivating an increased commitment to training. Respondents from the plants also listed a greater receptiveness to use outside training sources, the hiring of full-time training staff, and a broadening of their in-house supervisory training as consequences of their participation in the WMDP.

Recommendations: Research and Policy

This study is exploratory in the sense that it intends to prompt further questions for policy-related research. Implications for the generation of adult learning opportunities are the basis for the first recommendation: that adult education researchers investigate the individual and institutional "multiplier effects" for adult learning opportunities resulting from cooperative educational programs between educational and non-educational institutions.

It would be especially valuable, secondly, to investigate the consequences of such programs for adults having low previous levels of educational attainment. Cross (1979) has pointed out the "gaps and missing links" in adult learning opportunities, especially for the educationally less-accomplished. Programs which bring less-educated adults into educational settings to participate in focused learning programs related to their jobs, may serve to reduce psychological barriers to their ongoing individual and institutional learning.

Thirdly, it is recommend research be conducted concerning the appropriateness of selection criteria for jobs which provide important educational mobility opportunities through training and education programs. Such research is more relevant to the extent that the selection criteria are intended to relate to the candidates' ability to use these programs effectively. Selection criteria may increase the educational

attainment requirements in ways which are inappropriate to the level of the training provided.

A fourth issue for research suggested by the findings of this study concerns the budgetary arrangements imposed on adult education programs in colleges, universities, and other host institutions. Requiring adult education programs to pay their own way, and even (as Worthingham has done) to contribute large margins to the host institution's general fund, may be inequitable, or it may be a reasonable demand. The further clarification of the issues begun by Windham et al. (1978) and empirical research into these issues would be timely. Higher education administrators are beginning to acquire the skills of more mature fiscal management, and adult educators of the near future will find it necessary to be conversant with the terminology and issues of budgetary management in an increasingly competitive adult learning market.

Adult educators need to be conversant, as well, with the skills and concepts related to learning needs assessment and program evaluation. While this study's findings suggest that manufacturing plants are not generally sophisticated in their methods of needs assessment and program evaluation, it suggests also that a trend toward acquiring this sophistication has begun within the last five years. Given the plants' tendency to reduce training in economic downturns, it is likely that for the foreseeable future, business and industry will be more

carefully scrutinizing the outcomes of programs in which they choose to invest scarce resources.

These recommendations focus on specific aspects of the linkages which must be made in order to establish successful management development training for industrial users within colleges and universities. General economic conditions and the increasing competition for adult learners (Alford, 1980) call for greater attention to the most effective structures and processes for forging these linkages. And, while adult educators examine these factors to a level of detail sufficient for useful application, they will need to look also at the broader picture to determine how such programs increase adults' capacity for learning as well as organizations' capacity to provide new learning opportunities.

APPENDICES

APPENDIX A

Mailed Questionnaires

PLANT MANAGERS' QUESTIONNAIRE

I. Workforce Profile

This first section is designed to obtain some background information about your plant. This information will be used to group the plants surveyed according to size of workforce, characteristics of workers, and unionization in order to see what relationship if any these variables have with different aspects of training. This first section is printed on a separate page so that you may detach it and send it to your director of personnel or industrial relations to complete.

1. Please give the approximate number of your plant's empolyees who fall into each of the following categories.

_____ Hourly, non-exempt
_____ Technical and professional
_____ Managerial, not including first-level supervisors
_____ First-level supervisors
_____ Other
_____ Total

2. Have the characteristics of new supervisors in your plant changed significantly since you have been sending participants to the Wittenberg Management Development Program (MDP)? __ No __ Yes

If so, which of the following describes the changes?

__ More educational attainment
__ More recruited from outside
__ More women recruited
__ Younger people now recruited
__ More minorities recruited
__ More handicapped people recruited
__ Place more college graduates in supervisory positions

3. Have these changes had a bearing on the number of people you send to the MDP? __ No __ Yes

4. What are the chief criteria for selection of supervisors? Rank the top three criteria from 1 to 3. (1=most important to 3=third most important)

__ Superior work record as an hourly worker
__ Scores on selection tests
__ Scores on tests of personality characteristics
__ Recommendations of fellow workers
__ Seniority
__ Demonstrated leadership ability
__ History of active union experience
__ Superior technical skill
__ Cooperative attitude
__ Recommendations of his/her superior
__ Demonstrated courage
__ Other: _____

5. Are the current criteria different in any way from selection criteria when your company first started sending supervisors to the Wittenberg MDP? __ Yes __ No If they have changed, how have the criteria changed?

6. Do a significan number of first-level supervisors in your plant advance into middle management? __ Yes __ No

7. Are the hourly workers in your plant organized? __ Yes __ No

If they are, what unions are represented? When were each certified?

Union	Year Certified
_____	_____
_____	_____
_____	_____

II. Education and Training Policy

8. Which of the following statements best describes your view of your plant's approach to education, training, and development for first-level supervisors?

__ We seek to prepare supervisors to act decisively on their own based on a broad understanding of their jobs. Therefore, we encourage and assist supervisors to obtain a broad education. We expect supervisors to anticipate changes which come up or are needed in the plant and to help the company adapt to them, rather than to wait to act until the company's upper management decides what they should do and gives them directions.
__ We seek to anticipate supervisors' training needs and prepare them for specific situtions. We feel we are more effective in helping them, and in meeting company goals, if we give upper management responsibility for identifying problems, deciding upon solutions, and instructing supervisors how they should respond.

9. Listed below are some of the major changes which have taken place in American industry during the last two to three decades. Do you see the MDP as a means of helping first-level supervisors cope with the consequences of these changes? If so, check those changes with which the program helps them cope.

__ Unions and collective bargaining agreements
__ Establishment of staff departments with responsibility for former supervisor functions
__ Changed worker attitudes toward work and authority
__ Increased rate of product change
__ Mechanization and automation of jobs formerly done by people
__ Hiring more women
__ Hiring more minority group members
__ Hiring more handicapped workers
__ New management techniques or styles expected of supervisors
__ Other: _____

10. Check each of the following which represents important or pronounced education and training policy changes in your plant. Note when they took place.

A change in your plant?	When was it made?	
_____	_____	Hiring of a training director and/or training staff
_____	_____	Increased level of activity in training and development
_____	_____	Increased effort to base training commitment on specific, identified training needs
_____	_____	More specific evaluations of the outcomes of training and payoffs to training dollars invested
_____	_____	Establishment of tuition reimbursement program
_____	_____	Other: _____

11. Where is training policy set in your company? That is, where are decisions to begin, continue, or discontinue specific training, development, or educationa programs made? (Answer only if yours is a multi-plant firm.)

__ At the local level
__ At central company headquarters
__ Central headquarters approves or disapproves requests from local level

12. Who makes the final determination of training needs for supervisors in you plant?

__ Line managers for their subordinates
__ The personnel department
__ The training and development director
__ The company's central office; not locally determined
__ Other: _____

13. How are training costs charged?

__ To local plant budget
__ To central office training budget
__ Other: _____

14. Which of the following statements more accurately describes the relationship between training needs and plant or company profit margins as determinants of the level of training activity?

__ The level of activity is determined by current training needs consistently through profit upturns and downturns.
__ During slow periods training is put off until profits are higher; production and payroll costs have priority over training costs when resources are scarce.

15. Rank the following training needs areas for your plant's supervisors. In other words, what areas of their performance have required the greatest improvement or require the greatest improvement now? Consider areas not dealt with through the MDP, as well as those which are. Use the following three level scale: 1=needs or needed great improvement; 2=needs or needed some improvement; 3=needs or needed little or no improvement

__ Greater understanding of their job in total management structure
__ Awareness of their strengths and weaknesses
__ Managerial style appropriate to their situation
__ Knowledge of basic concepts of economics
__ Commitment to management perspective
__ Ability to accurately analyze problems and make sound decisions on their own
__ Communication skills (i.e., reports, presentations, etc.)
__ Human relations skills
__ Leadership skills
__ Listening skills
__ Other: _____

_____

III. Your Firm's Involvement with the Management Development Program (MDP)

16. What were the principle reasons your plant initially sent participants to the MDP? (Check as many as apply.)

__ Participation in the program was a way of supporting Wittenberg Univeristy while meeting training needs
__ The MDP was uniquely designed to meet our specific training needs
__ Representatives of the University were more persuasive than representatives of other programs
__ The MDP was the most economical training resource for our needs
__ Placing first-level supervisors on a college campus was a totally unique idea which we wanted to try.
__ The program simply met our training needs better than any other
__ Other: _____

_____

17. What was the principle reason for your continuing to participate in the MDP?

__ Our evaluations of the program show it meets our training goals.
__ Supervisors have expressed a positive view of the program.
__ Supervisors' performance improved demonstrably after their participation.
__ The administrators of the program have maintained a close, helpful relationship with our plant's management.
__ We have successfully solved personnel or production problems throughthee MDP.
__ We do not wish to break the personal relationships formed with the MDP staff.
__ Other: _____

_____

18. In your judgment what are the MDP's strenghts?

__ Unique concept; campus based program for supervisors
__ Unique program content
__ Intensive, one week program rather than spread out in weekly sessions
__ Use of professional teaching staff from fields of education
__ Opportunity to get supervisors away from the plant on neutral ground

18. (cont'd)

__ Programs' administrators and staff maintain contact with us
__ Provides supervisors a valuable chance to get away and reflect constructively about their jobs
__ Gives our company a chance to support Wittenberg University and gain in the process
__ The follow-up of Management Development II and III are valuable
__ The teaching skill of the faculty
__ The MDP's staff's attitude toward participants is positive and supporting

19. Have any changes in the areas listed below resulted from your relationship with the Wittenberg MDP and the participation of your supervisors? (Check as many as apply.)

__ We have revised the training policy for supervisors.
__ We have revised the training policy for middle management.
__ We have increased our training activity.
__ We have decreased our training activity.
__ We have revised our policy toward off-site training.
  __ We now do more.
  __ We now do less.
__ We have revised the supervisor's position to improve it.
__ We have changed the content of our own training programs.
__ We have established relationships with other colleges or universities.
__ Other: _____

_____

20. The four content areas of the current MDP are listed below. Rank them in order of their value to your supervisors. (1=most valuable to 4=least valuable.)

__ Communications
__ Principles of Economics
__ Principles of Business Management
__ Human Relations

21. Would you suggest any changes in the program? If so, please describe them briefly below.

22. Do you plan to send supervisors from your plant regularly for the foreseeable future?

__ No __Yes __ Not Sure

TRAINING DIRECTORS' QUESTIONNAIRE

I. General Training and Development Policy

The first area of questions has to do with your company's and your plant's policies and practices toward training and development for its employees.

1. Which of the following statements best describes your view of your plant's approach to education, training , and development for first-level supervisors?

__ We seek to prepare supervisors who can act decisively on their own based on a broad understanding of their jobs. Therefore, we encourage and assist supervisors to obtain a broad education. We expect supervisors to anticipate changes which come or are needed in the plant and to help the company adapt to them, rather than to wait to act until the company's upper management decides what to do and gives them directions.
__ We seek to anticipate supervisors' training needs and prepare them for specifically identified needs. We feel we are more effective in helping them, and in meeting the company's goals, if we give upper management responsibility for identifying problems, deciding upon solutions, and instructing supervisors how they should respond.

2. Which of the following statements best describes how decision making about the training and development function is structured in your company?

__ Training policy is determined by the central office; we at the local level have some input, but are primarily responsible for carrying out the central office's policies and programs.
__ We have our own training director, but he or she still carries out the central office's policies and programs
__ We have our own training director, who determines which programs are needed and carries them out.

3. In your firm, or in your plant, is the first-level supervisor's position a career step by which employees advance into middle management?
__ No __ Yes

II. Wittenberg Program's Place in Your Overall Training Program

I am interested, in this section, to find out where the Wittenberg Management Development Program fits into your total training and development strategies for first-level supervisors.

4. Check which of the following statements describes your approach to using the Management Development Program (MDP). (Check as many as apply.)

__ Initial training for newly appointed supervisors
__ To reward or build on good performance
__ All supervisors in the plant are sent to the MDP at some point
__ This is the only college-based program we use
__ This is one of the college programs we use
__ Refresher training for established supervisors
__ To improve or salvage poorly performing supervisors
__ This is the only outside training resource we use
__ This is one of several outside training sources we use

10. Who selects supervisors for participation in the MDP?

__ An advisory committee
__ The training director
__ The plant manager
__ Their immediate supervisors
__ The personnel manager
__ They select themselves by volunteering or requesting to go

11. What criteria are used to select participants for the MDP? (Check as many as apply.)

__ Every supervisor in the plant attends eventually.
__ Person's learning ability
__ New appointment to supervisory position
__ Potential for promotion to middle management
__ Good performance; participation in MDP viewed as a reward
__ Number of years in supervisory position
__ Position in a unit scheduled to receive the effect of planned changes
__ Scores on a written test
__ Objective evaluations
__ Selection is voluntary
__ Other: _____

_____

III. Needs and Needs Determination

Training need determination is a very difficult part of a training program. In this section I intend to determine what methods you have been able to use based on what is effective and practical.

12. Which of the following methods do you chiefly use to determine what training first-level supervisors in your plant need?

__ Analyze job descriptions
__ Analyze supervisors' observed job behavior
__ Analyze production and personnel problems
__ Ask supervisors' superiors
__ Ask supervisors' subordinates
__ Give supervisors written tests
__ Study performance appraisals
__ Review exit interviews
__ Consult an advisory committee
__ Study other firms' training
__ Identify universal supervisor training needs
__ Other: _____

_____

13. Rate the following training needs areas for your plant's supervisors. In other words, what areas of their performance have required the greatest improvement? Consider areas of need dealt with through other programs as well, not only those you have been able to address through the MDP. (Scale: 1=needs or needed great improvement; 2=needs or needed some improvement; 3=needs or needed little or no improvement)

__ Greater understanding of their job in total management structure
__ Awareness of their strengths and weaknesses
__ Managerial style appropriate to their situation
__ Knowledge of basic concepts of economics
__ Commitment to management perspective
__ Labor relations
__ Ability to accurately analyze problems and make sound decisions on their own
__ Communication skills (i.e., reports, records, presentations)
__ Human relations skills
__ Leadership skills
__ Listening skills
__ Other: _____

_____

14. Listed below are some of the major changes which have taken place in American industry during the last two to three decades. Do you see the MDP as a means of helping first-line supervisors cope with the consequences of these changes? If so, check those changes with which the program should help them cope.

__ Unions and collective bargaining agreements
__ Establishment of staff departments with responsibility for former supervisory functions
__ Changed worker attitudes toward work and authority
__ Increased rate of product change
__ Mechanization and automation of jobs formerly done by people
__ Hiring greater numbers of women
__ Hiring greater numbers of minority group members
__ Hiring more handicapped workers
__ New management techniques or styles expected of supervisors
__ Other: _____

_____

IV. Training and Development Budget Allocation

The questions in this section are designed to find out how the training function is financed in your company and where supervisory training fits within the training budget.

15. Which of the following statements describes how your training budget is handled?

__ Funds are allocated to local plants from the central company budget.
__ We establish a yearly budget from local operating funds determined according to what our anticipated training needs are.
__ We establish our own budget, and are limited to a pro-rated percentage of the plant's operating budget adjusted from year to year for the anticipated annual profits.
__ Other: _____

_____

16. What percentage of your training budget is allocated to each of the following groups annually? Approximately how many participants per year do you have in each category?

	% of Budget	# of Participants
Hourly workers	_____	_____
Management (total).....	_____	_____
- First-level supervisors only.....	_____	_____
Salaried technical staff.....	_____	_____
Salaried clearical staff.....	_____	_____
Tuition reimbursement.....	_____	_____

V. Training Program Evaluation

This final section of the questionnaire is designed to determine how you are able to evaluate this program and other parts of your plant's training given practical restraints, and how you rate the Wittenberg MDP.

17. By what methods do you evaluate the results of your supervisors' participation in the MDP? (Check as many as apply.)

__ Informal observation of supervisors before and after they have participated
__ Written evaluations completed by participants
__ Informal conversations with participants
__ Evaluation of turnover, waste rates, quality reject rates, grievances, absenteeism, and the like
__ Evaluations of supervisors by their immediate superiors
__ Other: _____

_____

18. If you plan to continue to send supervisors, why do you?

__ We do not intend to send any more participants
__ Have good relationships with the staff of the program
__ We always have sent people
__ Have noticed a change in supervisors' performance after the MDP
__ Objective measures like turnover, waste, quality rejects, etc. decrease for supervisors' units after they participate
__ Prefer an intense format, that is one solid week rather than spread out over several weeks
__ Supervisors enjoy the program
__ Formal evaluations show their performance improves
__ Other: _____

_____

_____

19. Check in which of the following areas you think the MDP could be improved.

__ Teaching staff's effectiveness
__ Require more work
__ Program should be shorter
__ Program should be longer
__ More staff follow-up with firms
__ Add some content areas (specify): _____
__ Different teaching approaches
__ Schedule evening activities
__ Credit should be awarded for the program
__ Eliminate some content areas (specify): _____
__ Other: (Comment) _____

20. Have you been able to calculate a financial return on your investment in this program? __ No __ Yes

If so, do you realize a financial advantage? __ No __ Yes

21. Check any of the changes listed below if they have been made in your plant as a result of your supervisors' participation in the MDP or your intereaction with the Wittenberg MDP staff.

__ We have been able to eliminate some of our own training courses now covered by the MDP
__ We are more willing to be involved with college-based training programs
__ We provide more off-site training
__ We have shifted the emphasis of our other supervisory training to broaden it
__ We have adopted some of the teaching methods used in the MDP for our own training programs
__ Other: _____

22. In which of the following areas have you noticed improvement in the performance of supervisors who have participated in the management development program?

__ Relationships with subordinates
__ Ability to motivate subordinates
__ Ability to communicate more effectively with peers and superiors
__ Apparent self-confidence
__ Greater ability to solve problems on the job
__ Decisiveness
__ Understanding of basic management principles
__ Understanding of basic economic principles as applied to their jobs
__ Ability to plan and organize their units
__ Greater job satisfaction
__ Other: _____

23. Do you feel that some supervisors in your plant have advanced to middle management positions based significantly on their experience in the MDP?

__ No __ Yes

SUPERVISORS' QUESTIONNAIRE

The main purposes of this questionnaire are to find out how the Wittenberg Management Development Program (which I will abbreviate WMDP) helped you do the supervisor's job better, how it relates to the other training you have had, and how it relates to the other learning you have done as an adult. The answers of you and other supervisors are part of a larger study in which plant managers and training directors are also being asked about how they use this program in their overall training of supervisors.

I. Description of Your Work Situation

The purpose of this section is to get an idea of how you feel about different parts of your job and about changes which affect your job.

1. Out of the items below, rank the five most satisfying parts of your job in the left hand column. (Scale: 1=most satisfying, 2=next most satisfying, etc). Then in the right hand column rank the five least satisfying parts of the supervisor's job for you. (Scale: 1=least satisfying, 2=next least satisfying, etc.).

Satisfying	Unsatisfying	
___	___	Dealing with technological changes
___	___	Dealing with organizational changes in the plant
___	___	Teaching people their jobs
___	___	Working with people of different age, sex, or ethnic background
___	___	Dealing with OSHA, EEO, and other government regulations
___	___	Status of being a manager in the company
___	___	Consistently turning out quality products
___	___	Meeting production goals under pressure
___	___	Your pay
___	___	Handling personnel or human relations problems
___	___	Solving technical problems which come up
___	___	Dealing with grievances and the union
___	___	Relationships with upper management
___	___	Working with other supervisors
___	___	Working with staff experts

2. Listed below are changes which have occurred in many companies. Rate the ones that have occurred in your plant in terms of how much they have affected your job as supervisor and made it more demanding. (Scale: 1=affected supervisor's job greatly, 2=affected supervisor's job to some extent, 3=affected supervisor's job little or none at all).

___Unions and collective bargaining agreements
___Establishment of staff departments with responsibility for former supervisory functions
___Change in worker attitudes toward work and authority
___Increase in rate of product change
___Hiring greater numbers of women
___Hiring more minority group members
___Hiring more handicapped workers
___Mechanization and automation of jobs formerly done by people
___New management techniques or styles expected of supervisors
___Other:_____
_____

(continued, reverse side of page)

SQ 2

II. Education and Training Experience

Supervisors of equal skill and ability vary greatly in how they learn their jobs and their overall educational experience. This section is intended to get a description of your educational experience and how you learned your job.

3. Check the item which best describes when your training for supervision occurred:

___Never received any training before the WMDP
___After I was appointed to supervisor, but before I started on the job
___From time to time after I had worked in the job awhile
___Both before I started, and from time-to-time after I started

4. Rate the statements below which describe how you learned your job as a supervisor according to how helpful each one has been. (Scale: 1=very helpful, 2=somewhat helpful, 3=not very helpful, 4=not at all helpful).

___No training; learned on my own by trial and error
___On-the-job coaching from my supervisor before I became a supervisor
___On-the-job coaching from my immediate supervisor after I became a supervisor
___Classroom training, during work hours, at the plant
___Classroom training, during work hours away from the plant
___Classroom training, after work hours at the plant
___Classroom training, after work hours, away from the plant
___Reading on my own
___Discussing my job with other supervisors
___Programmed instructional materials provided by the company
___Other:_____

_____

5. This next question is designed to find out how your training in the WMDP relates to other learning you have done. In the first column, check those types of learning you did before you participated in your first WMDP session and in the second column check those you participated in after your first WMDP session.

Before	After		Before	After	
_____	_____	Some elementary or high school	_____	_____	Non-credit 2 or 4 year college adult education
_____	_____	High school diploma GED	_____	_____	Reading on my own
_____	_____	Some junior or community college	_____	_____	Non-credit adult education in non-educational organizations
_____	_____	Associates 2-year program			
_____	_____	Some 4-year college	_____	_____	Skill training not related to my job
_____	_____	Bachelor's degree			
_____	_____	Non-credit public school adult education	_____	_____	Company's tuition reimbursement
			_____	_____	Other:_____

6. If you did any learning after your participation in the WMDP, do you feel the experience in the WMDP encouraged you to do it?
___Yes ___No ___Don't know

7. From among those listed below, rate the types of learning you have had for supervising in terms of how helpful they have been in learning your job. (Scale: 1=very helpful, 2=moderately helpful, 3=not helpful).

___Plant programs by plant personnel
___Plant programs by outside consultants
___College-based programs other than Wittenberg's
___The Wittenberg MDP
___Programs by professional associations (e.g., American Manufacturer's Ass'n)
___Other:_____

_____

SQ 3

III. Evaluation of the Wittenberg Management Development Program (WMDP)

The purpose of this section is to get your opinion about how well the WMDP met your expectations and how much it helped you do your job as supervisor.

8. Rate the following teaching methods used in the WMDP with, 1=very helpful to my learning, 2=somewhat helpful, 3=not particularly helpful, 4=made learning more difficult.

___Instructors' lectures
___Group discussions in designed exercises
___Films
___Self-analysis of your skills
___Instructors' questions
___Analysis of problems from your company
___Paper and pencil tests
___Class discussion
___Role playing
___Case studies
___Personal values and attitudes clarification
___Instructors' encouragement of discussion
___Other:_____

_____

9. Rate the benefits you actually gained from participating in the WMDP in terms of which were most useful to you back on the job (Scale: 1=very useful, 2=somewhat useful, 3=not particularly useful, 4=useless).

___Was a reward or "vote of confidence" from management
___Helped me see my job in the total company picture
___Learned a managerial style better suited to today's workers
___Learned how U. S. economy works and affects my job
___Made me see management perspective better
___Learned better labor relations skills
___Built my self-confidence
___Learned more about my strengths and weaknesses
___Provided me a chance to think about my career and future
___Improved my ability to solve problems and make sound decisions
___Improved my communication skills (e.g., presentations and reports)
___Improved my leadership skills
___Learned a lot from other supervisors
___Provided a chance to think through my job away from daily pressures
___Other:_____

_____

_____

10. When you returned to your job, did you feel the new approaches and skills you learned in the WMDP were supported by the policies and actions of the company's management? (Check only one).

___Yes ___No ___To some extent, but not completely ___Don't Know

11. Below are listed the four courses or subjects currently covered in the WMDP. Rank the ones that were offered when you were in the program according to their usefulness to you on your job.

___Communications, Obstacles to Communications and How to Overcome Them

___How the American Economy Works

___Principles of Managing a Business

___Human Relations Skills in Business

12. Would the program have been more valuable to you if you had received some form of credit (e.g., college credit or Continuing Education Units)?

___Yes ___No ___Don't particularly care

13. If given the opportunity, would you attend another WMDP session?

___No ___Yes ___Don't know

(continued, reverse side of page)

SQ 4

14. Would you recommend the WMDP to other supervisors?

___Yes ___No ___Don't know

IV. Background Information

These last few questions are included so that I can compare the answers of supervisors with different characteristics. For example, I might compare those who have been supervisors for five or more years with those who have been supervisors for less than five years, in terms of what is satisfying or dissatisfying about their jobs.

Your individual answers will not be identified. They will always be grouped with other supervisors' answers. No one will see your questionnaire but me.

15. Name:_____ 16. Age:___17. Sex: ___Male ___Female

18. Company when in WMDP:_____

19. Period of years you were a first-level supervisor: From_____ to: _____

20.

Positions Held Before WMDP Participation	Positions Held Since Participation
_____	_____
_____	_____
_____	_____

22. In the supervisory position you held at the time you attended the WMDP, did you supervise primarily non-management, non-supervisory, hourly workers?

___Yes ___No ___Don't remember

APPENDIX B

Detailed Profiles of Plants and Participant-Supervisor Groups Surveyed in This Study

APPENDIX B

DETAILED PROFILES OF PLANTS AND PARTICIPANT-SUPERVISOR GROUPS SURVEYED IN THIS STUDY

This appendix contains detailed information about the plants and participant-supervisors surveyed in this study. This information is drawn mostly from the responses to the mailed questionnaires, the PMQ, TDQ, and SQ.

The Plants

Company size:

The most often cited company characteristics in studies of training in business and industry are number of employees (size) and type of industry. As illustrated in Table B-1, the distribution of plants by size in this study is concentrated at the two extremes. Responses to both the PMQ and the TDQ are distributed in a pattern very similar to the distribution of the entire study population.

Table B-1: Distribution of Plant Population and Respondents to PMQ's and to TDQ's by Size of Company

	Company Size by Number of Employees						
	<500	500-999	1,000-2,499	2,500-4,999	5,000-9,999	10,000- or More	Total
All Plants #	59	21	33	24	25	88	250
Surveyed %	(23.6)	(8.4)	(13.2)	(9.6)	(10.0)	(35.2)	(100.0)
Plants #	34	10	19	13	8	33	126
Returning % PMQ	(27.0)	(7.9)	(15.2)	(10.3)	(8.7)	(31.0)	(100.0)
Plants #	34	13	18	19	10	47	141
Returning TDQ	(24.1)	(9.2)	(12.8)	(13.5)	(7.1)	(33.3)	(100.0)

Types of industry

Table B-2 displays the distribution of plants according to the first two digits of their Standard Industrial Classification (SIC)[1] code numbers. The participating plants for 1978-80 were concentrated in three categories: heavy manufacturing, continuous process industries, and light manufacturing. The first category, heavy manufacturing, is composed of firms which produce transportation equipment, primary metals, and heavy machinery. Continuous process industries include producers of chemicals, plastics, and refined petroleum. The light manufacturing classification is made up of food processors, printers and paper products manufacturers. Interestingly, the predicted growth areas for the next decade--white collar businesses which process information and those which retail consumer products, and utilities and communications companies--have provided relatively few of the WMDP's participants within the last two years. According to the staff members who have been with the WMDP for several years, this has been the case throughout the program's history. As the table illustrates, the distribution of responses was similar to the total population distribution.

[1] The Standard Industrial Classification (SIC) Code is a four digit numbering system which the U.S. Department of Commerce developed to categorize goods and services produced by business and industrial organizations. The first two digits denote broad categories such as "transportation equipment" (37), "primary metals industries" (33), or "paper and allied products" (26). The third and fourth digits are used to specify progressively narrower product subgroupings.

Table B-2: Distribution of Plants Surveyed and Plants Responding to Survey by Plants' Standard Industrial Classification (SIC)

		Plants Classified by First Two Digits of SIC Code							
		1	2	3	4	5	6	7	8	
		Agri. Serv.	Mining	Light Mfg.	High Tech.	Heavy Mfg.	Cont. Process	Util., Trans., Comm.	White Collar	Total
All Plants Surveyed	#	1	3	44	21	94	72	9	6	250
	%	(0.4)	(1.2)	(17.6)	(8.6)	(37.6)	(28.8)	(3.6)	(2.4)	(100.0)
Plants Responding to PMQ	#	1	0	26	13	49	29	5	3	126
	%	(0.8)	0.0	(20.6)	(10.3)	(38.9)	(23.0)	(4.0)	(2.4)	(100.0)
Plants Responding to TDQ	#	0	0	27	12	58	34	5	3	141
	%	(0.0)	(0.0)	(19.1)	(8.5)	(41.1)	(24.1)	(3.5)	(2.1)	(100.0)

Location

The WMDP draws participants from a large geographical area. As shown in Table B-3, plants located between one hundred and two hundred miles from the WMDP site were the most frequently represented group among all plants surveyed. The distribution of respondents was similar with reference to distance from the program site, but the group of respondents is moderately over-represented in the category of plants nearest the program site compared to the distribution of all plants surveyed.

Respondents' titles

The distribution of respondents, detailed in Table B-4, draws attention to one important qualification of the findings. The respondents to the two different questionnaires were not, in all cases, from the sector of management the questionnaire was intended to sample. Personnel managers responded to over half of the Plant Managers' Questionnaires (PMQ's). Managers of production, usually called "line managers," responded to slightly more than a quarter of the Training Directors' Questionnaires (TDQ's). For those questionnaire items in which the respondents position is an important variable, answers were grouped by title to get the "line manager" and "personnel manager" responses. For most of the questions, however, the respondent's position is not a critical variable because these questions ask, not for opinions or attitudes, but for objective information.

Table B-3: Distribution of All Plants Surveyed and Plants Responding to the PMQ and TDQ by Distance from the WMDP Site

		Distance in Miles						
		<50	50-90	100-199	200-299	300-499	500 or more	Totals
All Plants Surveyed	#	48	34	64	32	47	25	250
	%	(19.2)	(13.6)	(25.6)	(12.8)	(18.8)	(10.0)	(100.0)
Plants Responding to PMQ	#	32	20	32	15	21	6	126
	%	(25.4)	(15.9)	(25.4)	(11.9)	(16.7)	(4.8)	(100.0)
Plants Responding to TDQ	#	32	21	40	18	23	7	141
	%	(22.7)	(14.9)	(28.4)	(12.8)	(16.3)	(5.0)	(100.0)

Table B-4: Distribution of Responses by Respondents' Title

		Respondents' Title								
		Pres.	V-P Mfg.	Gen. Mgr.	Prod. Mgr.	Plant Mgr.	Up. Pers.	Pers. Mgr.	Ind. Rel. Mgr.	Trng. Dir.	Totals
Respondents to PMQ	#	0	14	6	16	23	4	33	16	14	126
	%	0.0	11.1	4.8	12.7	18.3	3.2	26.2	12.7	11.1	100.0
Respondents to TDQ	#	2	13	4	8	10	0	57	21	26	141
	%	1.4	9.2	2.8	5.7	7.1	0.0	40.4	14.9	18.4	100.0
All Plants Surveyed	#	6	18	26	25	34	0	78	36	27	250
	%	2.4	7.2	10.4	10.0	13.6	0.0	31.2	14.4	10.8	100.0

Participation patterns

Most plants which send participants to the WMDP send only a few. As illustrated in Tables B-5 and B-6, the distribution of plants by the number of participants they send is sharply skewed in the direction of those who have sent fewest participants. Generally, among those plants who responded to the survey questionnaires, there is the same pattern.

One may observe also that according to Table B-7, the small number of plants which send many participants account for the majority of the participants. About one fourth of the plants accounted for three- fourths of the participants over the last ten years. Only eight plants, or 3.2% of the total sample accounted for nearly one-fourth (22.1%) of the total number of participants during the last decade.

The pattern during the last two years has been more even distribution, as shown in Table B-8. Still the same pattern exists. Again the most active eight plants, 3.2% of all plants, account for 19.4% of the total participants.

The distribution of plants according to the average number of participants per year supports the notion that many plants send only a few participants, and a few plants send many. Seventy-two percent of the plants sent four or less participants per year over the last decade. As shown in Table B-9, only about six percent sent more than ten participants per year.

In a similar pattern, only a small proportion of the total plant population sends participants consistently, year after

Table B-5: Number of Participant Supervisors Sent During Program Years 1978-79 and 1979-80 Among All Plants Surveyed and Among Respondents to the Survey Questionnaires

		Number of Participant-Supervisors Sent to WMDP 1978-79 and 1979-80 Combined						
		1-5	6-10	11-15	16-20	21-30	>30	Totals
All Plants Surveyed	#	175	33	15	9	10	8	250
	%	(70.0)	(13.2)	(6.0)	(3.6)	(4.0)	(3.2)	(100.0)
Plants Responding to PMQ	#	81	17	11	7	6	4	126
	%	(64.3)	(13.5)	(8.7)	(5.6)	(4.8)	(3.2)	(100.0)
Plants Responding to TDQ	#	92	21	13	6	5	4	141
	%	(65.2)	(14.9)	(9.2)	(4.3)	(3.5)	(2.8)	(100.0)

Table B-6: Participant-Supervisors Sent in Ten Years from 1970-71 to 1979-80 by All Plants Surveyed and by Plants Which Returned Each Plant Questionnaire

		Number of Participant-Supervisors Sent								
		1-5	6-10	11-20	21-35	36-50	51-75	76-100	>100	Totals
All Plants Surveyed	#	118	35	34	20	18	14	3	8	250
	%	(47.2)	(14.1)	(13.7)	(8.1)	(7.2)	(5.6)	(1.2)	(3.2)	(100.0)
Plants Returning PMQ	#	51	21	22	13	6	7	3	3	126
	%	(40.5)	(16.7)	(17.5)	(10.3)	(4.8)	(5.6)	(2.4)	(2.4)	(100.0)
Plants Returning TDQ	#	56	23	27	12	8	7	3	5	141
	%	(39.7)	(16.3)	(19.1)	(8.5)	(5.7)	(5.0)	(2.1)	(3.5)	(100.0)

Note: Although the study included only plants who sent participant-supervisors during the two program years, 1978-79 and 1979-80, the study also investigated the degree to which they had participated over the ten year period from 1970-71 to 1979-80.

Table B-7: Distribution of Plants by Per Plant Participants from 1970-71 to 1979-80 and Total Participants Represented by Each Category for That Period

		Participant-Supervisors per Plant								
		1-5	6-10	11-20	21-35	36-50	51-75	76-100	>100	Totals
Number of Plants	#	118	35	34	20	18	14	3	8	250
	%	(47.2)	(14.0)	(13.6)	(8.0)	(7.2)	(5.6)	(1.2)	(3.2)	(100.0)
Number of Partici-pants	#	267	282	494	532	688	781	250	942	4,266
	%	(7.0)	(6.6)	(11.6)	(12.5)	(16.1)	(18.3)	(5.9)	(22.1)	(100.0)

Table B-8: Distribution of Plants by Per-Plant Participants in the Two Year Period, 1978-79 to 1979-80, and Total Participants Represented by Each Category

		Number of Participant-Supervisors Sent 1978-79 to 1979-80						
		1-5	6-10	11-15	16-20	21-30	>30	Totals
Number of Plants	#	175	33	15	9	10	8	250
	%	(70.0)	(13.2)	(6.0)	(3.6)	(4.0)	(3.2)	(100.0)
Total Number of Participant-Supervisors	#	525	264	195	162	210	320	1,646
	%	(31.9)	(16.0)	(11.8)	(9.8)	(12.8)	(19.4)	(100.0)

Table B-9: Average Number of Participant-Supervisors Plants Sent Per Year from 1970-71 to 1979-80

	Average Number of Participants Sent Per Year, 1970-71 to 1979-80										
	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	>20
Number of Plants	123	57	24	17	13	8	0	0	2	3	3
% of All Plants Surveyed	49.2	22.8	11.4	6.8	5.2	3.2	0.0	0.0	0.8	1.2	1.2

year. Only twenty percent of the plants in the survey sent participants for more than five years out of the last ten, and more than sixty percent sent participants in three years or less. This is consistent with WMDP administrators' report that each year twenty to thirty plants will participate who did not participate the year before.

Another important characteristic of program participation is the number of participants who return for one or both of the later units of the WMDP. There were 4,266 participants during the ten program years studied. This represented only 3,374 people. Slightly over a fifth (20.9%) of the participants, then, were people returning for Unit II or Unit III.

The characteristics of plants in the sample described to this point are based on data available for the entire sample. Three descriptors were available for only those plants who responded to the Plant Managers' Questionnaire: (1) total number of employees in the plant, (2) number of first-line supervisors in the plant, and (3) whether hourly workers were organized in labor unions in the plant.

Plant size

The distribution of responding plants according to the total number of plant employees approximates a normal distribution. The distribution is recorded in Table B-10. The mean or average plant size is about 525 employees.

Table B-10: Distribution of Plants Responding to the Questionnaire (PMQ) by the Number of Employees in the Plant

	Number of Plant Employees						
	<25	25-99	100-249	250-499	500-999	1000+	Totals
Number of Plants	5	20	28	29	22	17	121*
Percentage of Plants Responding	4.1	16.5	23.1	24.0	18.2	14.0	100

*Five respondents did not answer question.

The average number of first-line supervisors in the plants which responded to the PMQ appears to be within the 21-30 range. The distribution illustrated in Table B-11 is clearly, but moderately skewed toward the lower end of the range. Only about a fourth of the plants who responded had more than thirty first-line supervisors.

Finally, with reference to union organization of the hourly workers in the plants responding to the PMQ, about thirty percent of the plants provided relevant information and were organized.

Summary

Several generalizations can be made about the population of plants surveyed and the population they are drawn from. The companies they represent are more likely to be either very small or very large firms. The plants are heavily concentrated in this country's traditional industries representing heavy manufacturing, chemical processing, and petroleum refining. While the WMDP draws participants from plants located as far away as the west coast, the preponderance of involved plants' sites are within an area between 100 to 500 miles from the program site. Those plants from whom TDQ and PMQ responses were received were more concentrated within a distance of 100 miles from the WMDP site than the population of all plants to which questionnaires were sent.

The two plant questionnaires were most often answered by managers of some aspect of the personnel function. In fact,

Table B-11: Distribution of Plants Responding to the PMQ According to the Number of First-Line Supervisors (FLS) Employed

	Number of FLS's in Plant								
	1-5	6-10	11-20	21-30	31-40	41-50	51-75	>75	Totals
Number of Plants	12	18	28	19	8	5	7	10	107*
Percentage of Responding Plants	11.2	16.8	26.2	17.8	7.5	4.7	6.5	9.3	100.0

*Nineteen respondents did not answer question.

slightly over half of the PMQ's were completed by this group of managers rather than line managers with responsibilities more directly related to production.

Participation rates among plants is uneven. By far the greatest number of plants surveyed sent a small number of participants over the last decade and participated during only two or three years. A small group of large firms provide a disproportionate share of the total participant-supervisors and participate consistently year after year. About one-fifth of the participant-supervisors over the previous ten years have been those returning for Units II or III after completing Unit I.

The size of plants using the WMDP is distributed in a pattern approximating a normal distribution with a moderate skew toward the larger plants. Participating plants tend to have between 21 and 30 supervisors, although there is a wide range. And, in about thirty percent of the plants using the program, the hourly workers are organized.

Participants (Supervisors)

The supervisor sample is discussed with reference to three principal concerns: (1) the characteristics of the sample itself, (2) the comparison between the sample and the respondent group, and (3) the comparison between the supervisor sample and the plant sample.

Company size

By far the greatest portion of supervisors selected for the sample worked in the largest companies (43.2%), the proportion

of participants employed by companies within the 1,000 to 2,499 employee range (19.4%) were the second largest, and those from companies in the 2,500 to 4,999 range were third most selected (13.5%). This distribution is illustrated in Table B-12. The respondents' distribution pattern is similar with a slightly larger percentage in the largest company range. The supervisor sample is more concentrated in its three largest categories than the plant sample. This is attributable to the fact that the companies in the categories where the supervisors sample is most concentrated tend to be the most consistent participants in the WMDP. There are only eight plants which have participated every year over the last decade.

Type of industry

When the supervisors' sample is grouped according to the Standard Industrial Classification (SIC) of the plants employing them, as illustrated in Table B-13, the supervisors are densely concentrated within two categories--heavy manufacturing and continuous process industries. So much so that the responses to the supervisors' questions must be considered responses from those two categories for purposes of generalization. This negates the value of the SIC as a cross-tabulation variable in this sample, except to compare the responses of these two sectors.

Plants' participation pattern

Grouping the participant-supervisors sample according to the number of participants sent from a participant-supervisor's plant in the last two years of the program produces a

Table B-12: Distribution of Participant-Supervisors Surveyed and Participant-Supervisors Responding by Size of Company for Which They Worked

	Company Size for Plants by Number of Employees						
	<500	500-999	1,000-2,499	2,500-4,999	5,000-9,999	1000+	Totals
Number of Supervisors from Those Surveyed	# 32	17	53	37	16	118	273
	% 11.7	6.2	19.4	13.6	5.9	43.2	100.0
Number of Supervisors from Among Respondents	# 13	3	23	15	8	61	123
	% 10.6	2.4	18.7	12.2	6.5	49.6	100.0

Table B-13: Comparison of the Distribution of Participant-Supervisors Surveyed by SIC Code with the Distribution of Total Number of Participants Sent by Plants by SIC Code

	Plants Classified by SIC Code of Chief Product								
	Agri. Serv.	Mining	Light Mfg.	High Tech.	Heavy Mfg.	Cont. Process	Util. Trans. Comm.	White Collar	Total
Number of Participant-Supervisors Surveyed	0	0	5	10	133	110	7	8	273
Percent of Participant-Supervisors Surveyed	0.0	0.0	1.8	3.7	48.7	40.3	2.6	2.9	100.0
Percent of Plants Surveyed	0.4	1.2	17.6	8.6	37.6	28.8	3.6	2.4	100.0
Number of Participant-Supervisors Responding	0	0	2	4	60	49	5	3	123
Percent of Participant-Supervisors Who Responded to Survey	0.0	0.0	1.6	3.3	48.8	39.8	4.1	2.4	100.0

distribution similar to that for the plant sample. As shown in Table B-14, the greatest portion of the participant-supervisor sample was drawn from plants who sent few participants in the two years, 1978-79 and 1979-80. Clearly, though, the skew is neither as great nor as consistent as that for the plants. This is expected because plants sending small numbers of participants, even though there are many of them, would accumulate a proportionally smaller number of participants. The distribution of the supervisor respondents, according to their plants' participation rates, is similar to the total sample's distribution.

These are the variables upon which the supervisors sample and the plant sample can be compared. The remainder of the examination of the supervisor sample is based on variables which describe the members of this sample alone.

Supervisor's age

The first of these is age, summarized in Table B-15. Supervisor's current age and their age when they first participated in the WMDP were both recorded. The clear pattern is that supervisors were most often sent to the WMDP when they were between 25 and 29, with the numbers in succeeding categories steadily dwindling. While the respondents' profile generally follows this pattern from ages 25 through 39, the next two categories are disproportionately large. Possibly people in this age bracket are more likely to feel responsible for answering. Or, as adult developmental theory suggests, people

Table B-14: Comparison of Distribution of Participant-Supervisors Surveyed by Their Plants' 10 Year Participant Total With Distribution of Plants' 10 Year Participation Totals

	Total Number of Participants Sent, 1970-71 to 1979-80						
	1-5	6-10	11-20	21-30	31-40	41-60	Totals
Number of Supervisor Sample	101	44	62	30	20	13	273
%	(37.0)	(16.1)	(22.7)	(11.0)	(7.3)	(4.8)	(100.0)
Number of Supervisor Respondents	34	17	29	23	11	9	123
%	(27.6)	(13.8)	(23.6)	(18.7)	(4.0)	(7.3)	(100.0)
Percent of Plants	(70.0)	(13.2)	(9.6)	(4.0)	(3.2)	*	(100.0)

*Highest participation rate category for plants population data was " 30."

Table B-15: Distribution of Participant-Supervisors Surveyed by Age at First Participation

	Participant-Supervisors' Age in Years							
	20-24	25-29	30-34	35-39	40-44	45-49	>49	Totals
Age at First Participation, All Participant-Supervisors Survey	17	55	50	49	39	34	24	268*
	% (6.3)	(20.5)	(18.7)	(18.3)	(14.6)	(12.7)	(9.0)	(100.0)
Respondents Age at First Participation, Participant-Supervisors Responding to Survey	5	25	19	19	21	25	9	123
	% (4.1)	(20.3)	(15.4)	(15.4)	(17.1)	(20.3)	(7.3)	(100.0)

*Age information not available on 5 members of sample.

in this age group are more inclined to be reflective about their lives' courses. Whatever the reason, the group of respondents differs from the sample with reference to age.

Number of first-line supervisors in participants' plants

The supervisor sample is grouped with reference to the number of first-line supervisors in the plants where the sample members work. This is a limited statistic in that this data is available on only those plants from which a completed PMQ was received. An examination of Table B-16 indicates that the supervisors have come to the WMDP in greater proportion from the plants with the large number of supervisors than is true of the sample of plants. Plants in which there are more supervisors have more supervisors to send to the program, especially over the long term. Therefore, going back ten years to select supervisors, one would expect to have a larger pool of supervisors from plants with more supervisors.

Sex

With reference to sex, the sample is overwhelmingly skewed. Of the total sample of 273 supervisors, only ten (3.7%) are women.

Educational attainment

There were two sources of data about participant-supervisors' educational attainment. First, all respondents to the Supervisor's Questionnaire (SQ) were asked to check educational programs they had completed from among a number of given alternatives. Also, each supervisor provided educational

Table B-16: Participant-Supervisors Surveyed Sample by the Number of First-Line Supervisors in Their Plants

	Number of FLS's in Plant								
	1-5	6-10	11-20	21-30	31-40	41-50	51-75	>75	Totals
Number of Supervisors in Category	4	9	20	33	13	9	12	21	121*
%	(3.3)	(7.4)	(16.5)	(27.2)	(10.7)	(7.4)	(9.9)	(17.4)	(100.0)
Percent of Plants	(11.2)	(16.8)	(16.2)	(17.8)	(7.5)	(4.7)	(6.5)	(9.3)	(100.0)

*Data for this chart was available for only those plants from which a completed PMQ was received. There were only 121 plants from which both a participant-supervisor for the survey was selected and from which a completed PMQ was received.

attainment information when they enrolled in the WMDP for the first time. As Table B-17 illustrates, the two sources do not yield the same results. The responses on the questionnaire can be considered to be more accurate since all respondents answered the same question under the same general conditions, while the information on the cards was accumulated over ten years under a variety of formats. But for comparison between the respondents and non-respondents, the data from the individual profile cards on file in the WMDP office was recorded. This comparison demonstrates that the respondents do not differ significantly in educational attainment from the non-respondents.

More than ninety percent of the respondents have at least a high school diploma according to the information provided on the questionnaire. Just less than a half of them have gone on for further formal schooling and almost 15% have either a two year or a four year degree, usually in either business management or engineering.

Year of first participation

Grouping the sample by the year supervisors first participated in the WMDP illustrates that the sample over- represents the most recent two to three years of the decade examined, especially the last two. The probable reason for this is that the plants whose participants were selected were those who have participated during the last two years. Indirectly, this result in the supervisors sample indicates that the participation pattern, at least now, is that a large portion of the

Table B-17: Distribution of Supervisor Sample by Educational Attainment at Time of First Participation in Unit 1 of the WMDP

	Participant-Supervisors' Highest Level of Formal Educational Attainment						
	Some H.S.	H.S. Dip.	Some 2 Yr. Coll.	A.A.	Some 4 Yr. Coll.	B.A. or B.S.	Totals
Responses to SQ	11	50	25	5	14	12	117*
%	(9.4)	(42.7)	(21.4)	(4.3)	(12.0)	(10.3)	(100.0)
WMDP Records of Non-Respondents to SQ	39	66	14	1	13	17	150
%	(26.0)	(44.0)	(9.3)	(0.0)	(8.7)	(11.3)	(100.0)
WMDP Records for Respondents to SQ	34	43	7	3	15	15	117
%	(29.1)	(36.8)	(6.0)	(2.6)	(12.8)	(12.8)	(100.0)

*Six respondents did not answer this question.

plants participating in recent years are either new participants or previous participants who have been inactive for several years. Thus, among the participant-supervisors surveyed, respondents' opinions disproportionately reflect the opinions of recent participants. This is illustrated by Table B-18.

WMDP units attended

The supervisor sample was next examined with reference to the number of units of the WMDP the supervisors had attended. As shown in Table B-19, more than two-thirds of the sample have attended only Unit I. Less than a sixth have attended Units I and II, and only one-tenth have attended all three units.

Participant-supervisors' mobility

In order to determine supervisors' career patterns, respondents to the SQ were asked to list the positions they have held before participation in the WMDP and since. Based on this information, respondents were categorized as either "upward mobile" or not. About a third of the respondents--43 respondents; 34.9% of sample--were upward mobile since their participation in the program. A check was made to see what other variables upward mobility was related to, in order to place this information in perspective. Mobility related, among the respondents, to education only at either end of the educational attainment continuum. Among these respondents who have not completed high school, a disproportionately small number have been upward mobile (18.2%). At the other end, respondents with

Table B-18: Distribution of All Participant-Supervisors Surveyed and of Survey Respondents by the Year in Which They First Participated

	Program Year										
	1971**	1972	1973	1974	1975	1976	1977	1978	1979	1980	Totals
All Participant-Supervisors Surveyed	17	14	17	32	18	14	34	36	41	49	272*
(Row %)	(6.2)	(5.1)	(6.2)	(11.8)	(6.6)	(5.1)	(12.5)	(13.2)	(15.1)	(18.0)	(100.0)
Participant-Supervisors Responding to the SQ	3	3	5	11	6	6	11	14	28	36	123
(Row %)	(2.4)	(2.4)	(4.1)	(8.9)	(4.9)	(4.9)	(8.9)	(11.4)	(22.8)	(29.8)	(100.0)

*Data not available for one participant.

**Program years are identified by the latter year included in the program year. For example, "1970-71" in this table is identified as "1971."

Table B-19: Distribution of All Participant-Supervisors Surveyed and Respondents by Units of WMDP They Have Attended

	WMDP Units Attended				
	I	I & II	I, II & III	II	Totals
All Participant-Supervisors Surveyed	188	47	32	5	272
%	(69.1)	(17.3)	(11.8)	(1.8)	(100.0)
Respondents to the SQ	80	24	15	4	123
%	(65.0)	(19.5)	(12.2)	(3.3)	(100.0)

some four-year college work (57.1%) and those with four-year degrees (41.7%) were above the average in mobility (i.e. 34.9%). In all other educational attainment categories, the category mean is close to the sample mean.

Mobility also related positively to the number of units of the WMDP supervisors had attended. Among those on whom data on both variables existed, 35.3% were upward mobile since the program. Only 23.8% of those who attended only Unit I had been promoted since the program, but 62.5% of those who attended Units I and II, and 53.3% of those who attended all three units had been promoted. This evidence must be qualified to some extent, however, when one recalls that those who participated in Unit I this past year or two have probably had time neither to be promoted nor to participate in a second or third unit. Also, the causal direction in the relationship cannot be determined.

Tenure as first-line supervisors

A potentially significant variable about supervisors is the length of their tenure as first-line supervisors. This datum was available for respondents only, and only for those among them who gave the information. As shown in Table B-20, the median tenure of the supervisors responding in the sample is between five and six years. Although data for determining the mean is not readily available, an examination of these figures indicates the mean is probably about five years.

Table B-20: Distribution of Participant-Supervisor Respondents by Number of Years as First-Line Supervisors

	Years as First Line Supervisor										
	1	2	3	4	5	6-8	9-10	11-15	>15	No Info.	Totals
#	16	12	13	7	10	16	9	22	6	6	117
%	(13.7)	(10.3)	(11.1)	(6.0)	(8.5)	(13.7)	(7.7)	(18.8)	(5.1)	(5.1)	(100.0)

Attitudes toward job

In order to obtain an idea of how the participant-supervisors in this sample relate to the very difficult position of first-line supervisor, participant-supervisors were asked to rank, from among alternatives given, the five aspects of the first-line supervisors job they found most satisfying, and the five they found most dissatisfying. They ranked each from one to five, with a ranking of one being the "most satisfying" or "most dissatisfying" in each case, and five the "least satisfying" or "least dissatisfying." To interpret the data given, a weighted average score was computed. First, an average score was determined, and then, since the lower number values signified higher ratings, the average was divided by the total number of respondents who had ranked each item.[1]

The rankings for satisfying and for dissatisfying aspects of the job are presented in Tables B-21 and B-22. The supervisors in this sample fit the stereotype of the hard driving over-achiever. The top ranked satisfying aspects among respondents were "consistently turning out quality products" and "meeting production goals under pressure," closely followed by "solving technical problems." The next "satisfiers" in order were "teaching people their jobs," "working with people of different age, sex, or ethnic background," and "handling human relations problems."

[1] A weighted average rating was determined to account for a job aspect's breadth. This corrected for job aspects which only a few supervisors may have given consistently high (or consistently low) ratings. If few supervisors regarded it as one of their "top five," then for the group, its importance was appropriately discounted by determining a weighted average.

Table B-21: Satisfying Aspects of Job, Ranked in Order by Weighted Average Score and Number Mentioning

	Weighted Average Score	Number of Respondents Mentioning (%)
1. Consistently turning out quality product	.031	(79)
2. Meeting production goals under pressure	.037	(68)
3. Solving technical problems	.044	(62)
4. Teaching people their jobs	.045	(63)
5. Working with people of different backgrounds	.064	(50)
6. Handling human relations problems	.068	(44)
7. Working with other supervisors	.081	(45)
8. Dealing with technical changes	.085	(37)
9. Your pay	.089	(39)
10. Status as manager	.104	(31)
11. Relationship with upper management	.161	(22)
12. Dealing with organizational changes	.264	(11)
13. Working with staff experts	.270	(14)
14. Dealing with grievances	.390	(10)
15. Dealing with OSHA, EEO, and other government regs.	.500	(02)

Table B-22: Dissatisfying Aspects of Jobs, Ranked in Order by Weighted Average Score and Number Mentioning

	Weighted Average Score	Number of Respondents Mentioning (%)
1. Dealing with OSHA, EEO, and other government regulations	.024	(89)
2. Dealing with grievances and the union	.033	(77)
3. Dealing with organizational changes	.047	(69)
4. Relationships with upper management	.059	(48)
5. Working with staff experts	.070	(51)
6. Dealing with human relations problems	.072	(44)
7. Your pay	.077	(32)
8. Dealing with technical changes	.120	(30)
9. Status as manager	.133	(26)
10. Meeting production goals under pressure	.195	(16)
11. Solving technical problems	.215	(12)
12. Working with other supervisors	.244	(15)
13. Working with people of different backgrounds	.281	(11)
14. Teaching people their jobs	.305	(12)
15. Consistently turning out quality products	1.250	(02)

The rankings of the dissatisfying aspects of their jobs suggest a group of men and women who dislike being constrained by regulations and difficult relationships with other people in the organization. Clearly the most dissatisfying item was "dealing with OSHA, EEO, and other government regulations." This was followed in order by "dealing with grievances and the union," "dealing with organizational changes," "relationships with upper management," and "working with staff experts." This second tier of dissatisfying elements is consistent with the picture of the supervisors position as the "man in the middle," or the "forgotten man of management," who receives pressure from everyone but support from no one. It is interesting that the sixth most dissatisfying aspect of supervisors job -- "handling human relations problems" -- is also ranked as the sixth most satisfying job aspect by other supervisors.

In order to obtain more insight into the reasons behind the ratings, cross-tabulations with several variables thought to be related to the various items ranked were run. These cross-tabulation variables included education, years as a first-line supervisor, Standard Industrial Classification of their plants, the number of WMDP units attended, supervisor's age, and the presence of a union. There were very few significant relationships among the variables and the satisfying and dissatisfying aspects of supervisors' jobs.

The aspect which was rated evenly as a "satisfier" and a "dissatisfier," "handling human relations problems," showed

only a relationship with reference to supervisors who had completed less than a high school education. They were far more likely than supervisors at any other educational level to list this aspect as dissatisfying.

Educational attainment was also related to ratings of dissatisfaction with supervisors "relationships with upper management." However, in this case, it was those supervisors with a bachelor's degree who expressed above average dissatisfaction with this aspect of their jobs.

The presence of a labor union in the plant also appeared related to dissatisfaction with their relationship with upper management. In this case, supervisors who worked in plants with unions were less likely than those who worked in plants without labor unions to express dissatisfaction with upper management relationships.

The final descriptor of supervisors discussed has to do with their opinions about the external circumstances which have changed their jobs and made them more challenging. In Table B-23, various conditions are listed according to the frequency with which they were rated as important by supervisor respondents.

While technical and organizational problems are not regarded as unimportant, it is clearly the human relations and management-worker relations about which supervisors express the most concern. It is surprising that they rate managerial expectations for new managerial styles as the second most

Table B-23: Supervisors Ratings of Importance of Changes Which Have Occurred in Their Plants and Made Their Jobs More Demanding

Type of Change	Number (%) Rating "Affected Job Greatly"	Number (%) Rating "Affected Job to Some Extent"	Total (%)
Change in worker attitudes toward work and authority	64 (52.0%)	36 (29.3%)	100 (71.3%)
New management styles expected of supervisors	33 (26.8%)	38 (30.9%)	71 (57.7%)
Union established	34 (27.6%)	26 (21.1%)	60 (48.7%)
Increased rate of product change	20 (16.3%)	38 (30.9%)	58 (47.2%)
Hiring of women	22 (17.9%)	34 (27.6%)	56 (45.5%)
Hiring of minorities	19 (15.4%)	36 (29.3%)	55 (44.7%)
Automation of jobs of workers	16 (13.0%)	33 (26.8%)	49 (39.8%)
Supervisory functions now done by staff departments	8 (6.5%)	25 (20.3%)	33 (26.8%)
Hiring handicapped workers	4 (3.3%)	15 (12.2%)	19 (15.5%)

influencing change in their plants. This indicates that the trend in the organizational behavior literature and business management literature has been translated into at least an upper management expectation among the plants where respondents work.

Several generalizations apply to the supervisors or participants sample. By far the largest proportion of participants are sponsored by the largest companies. The sample is so heavily weighted in two SIC categories, heavy industry and continuous process industries, that it can be said to represent only these categories on questions where type of industry is a determining variable. On this variable, then, the participant-supervisor sample is more concentrated than the plant population from which it is drawn.

With reference to volume of participation per plant, the supervisor sample is skewed like the plant sample toward the end of the scale representing plants who sent only a few participants during the last two years, but it is less skewed than the plant population. These are the only variables on which the plant population and participants sample can be compared.

Most participant-supervisors in the sample first attended the WMDP when they were between 25 and 40, but the group of participant-supervisors who returned questionnaires are more concentrated than the total group to who received questionnaires in the 40 years old and older category. Not surprisingly, a greater proportion of the participant sample

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worked in plants with larger numbers of first-line supervisors. The sample and responses distributions are heavily weighted with those who first participated recently, especially the last two years. And, most participant-supervisors in the sample have attended only Unit I, although among respondents, a slightly greater proportion have gone beyond the first unit.

The sample and respondent group are similarly distributed with regard to educational attainment, based on the data given at their initial contact with the WMDP. Responses to the SQ indicate over 90% have at least a high school diploma. Respondents median tenure as first line supervisors is about six years. Only about thirty-five percent have moved to a higher management level since the program.

The respondents appear to be a cross section of the composite profile given in the literature about the supervisor's position. Above all, they are goal oriented and seem to be motivated by the pressure of meeting high production goals in the face of technical and personnel problems. At the same time, they express a frustration or, at least strong dissatisfaction, with the constraints and obstacles of government regulations, labor grievances, and the ambiguous status of lowest level manager.

They find themselves in a position which has changed and become more demanding primarily as a result of new worker attitudes toward authority and work, on the one side, and

expectations for new management approaches, on the other. They are, by their own description, men and women in the middle.

The summary of findings about the subjects reveals that, for the most part, the approach used in subject selection and sampling has produced the results desired. The respondent groups among plants and among participants (supervisors) are essentially representative of the plant population and the individual participant sample, respectively. The data, then, represents: (1) plants which participated during the 1978-1979 and 1979-1980 program years, and (2) the supervisors from these companies who have participated over the ten years between the 1970-1971 and the 1979-1980 program years.

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