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ABSTRACT

Because a main educational function is to prepare children for workplace roles, education's organizational forms and functions tend to correspond to those of the workplace. For instance, as the U.S. economy moved from agricultural through industrial to service bases, U.S. education moved from nonpublic schools to public schools to mass higher education. However, the relationship of education to workplace forms also has contradictions, such as the opposition between educational equal opportunity and workplace hierarchy. The major current contradiction is education's production of a workforce that is overeducated in relation to available job opportunities. Such workers are disgruntled and unproductive in factory jobs. These production problems are pushing workplaces toward greater democratization, which will in turn create more democratic educational organization. Democratic educational forms have been suggested in the past, by Pestalozzi, Neef, and Dewey, but since they did not correspond to workplace forms, they were never implemented. Workplace democratization will precede educational democratization, so researchers must examine types of workplace democracy, such as team assembly in factories, to predict their consequences for education. Team assembly will push education toward four changes, emphasizing participatory decision-making, individual problem-solving, minimum competencies, and peer tutoring. (RW)

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EDUCATION AND ORGANIZATIONAL DEMOCRACY

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July 1981

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Abstract

The seventies and early eighties have witnessed a renewed interest in increasing the participation of members of work organizations in governance of those organizations. Broadly speaking, these concerns are summarized under the rubric of workplace or organizational democracy. This paper traces the relation between democratization of the workplace and democratization of the schools. It argues that the lack of greater democracy in school organization is not attributible to a poverty of ideas as much as to a lack of movement in the productive sector itself to embrace democratic reforms. Attention is devoted to the dynamics of democratic workplace and educational reforms as well as the specific changes that are likely to take place in each sector as part of the broad movement towards organizational democracy.

H. M. Levin
July 1981

EDUCATION AND ORGANIZATIONAL DEMOCRACY

Human beings do not enter the world as workers. Rather, they become workers by being inculcated with the organizational and technical skills, values, behavior, and ideologies that are necessary for integration into the work enterprises of their societies. In traditional societies this process of socialization tends to be relatively informal in the sense that living with adults provides exposure to the necessary training to become competent as adults in both work and other aspects of daily life. The young members of a hunting and gathering society or one based upon primitive agriculture learn to hunt or forage for food or to grow food by participating with their elders from an early age in the hunt, the gathering, or the growing. Food preparation is learned as the young sit beside their mothers and fathers and observe these acts, eventually participating in the activities. Construction of shelter and the fabrication of garments is learned in the same way. No formal educational system is needed outside of daily life to socialize the young for their eventual work roles.

However, in modern societies work is generally removed from the household and is predicated upon very different values, activities, and organizational principles than those that characterize the home and family (Inkeles 1966). This has meant historically that other institutions have arisen to prepare the young for their eventual work

roles. Although these include experiences derived from the larger community, religious institutions, the media, and child-rearing, the most important single institution preparing the young for the workplace is the school. In this respect, the school can be viewed as the major institution for inculcating in the young the skills, values, attitudes, and behaviors which enable them to be smoothly integrated into work organizations as productive workers (Dreeben 1968, Inkeles and Smith 1974, Parsons 1959).

Recent studies have tended to focus on the historical relations between schools and the workplace (Bowles and Gintis 1976, Feinberg and Rosemont 1976, Field 1974, Katz 1968 and 1971, Spring 1972). That is, to what degree have the schools reflected the imperatives of the workplace, and what have been the mechanisms by which these linkages have been maintained? In responding to these questions, there has been substantial agreement on two aspects.[1] First, schools have tended to respond to major changes in work organization and to correspond in their own organization and functioning with major aspects of the workplace. Second, although the correspondence of schools with the organization and needs of the workplace for properly socialized labor inputs is an important factor for understanding the development and directions of education, schools also have an autonomous dynamic which can undermine that correspondence. It is worth providing a bit more detail on these two points.

Education and the Workplace: Correspondence

Bowles and Gintis (1976) refer to three distinct stages of development of schooling in the United States: (a) the origins of mass schooling in the nineteenth century; (b) the period of rationalization and streamlining of education from about 1890-1930; and (c) the post 1960 period of mass higher education. They suggest that each of these corresponds to a major turning point in the organization of work.

The establishment of mass schooling seemed to follow the transformation of the U.S. workplace from one based upon small and highly decentralized workshops, farms, and shops to one based upon the establishment of a factory system and wage-labor. In 1780 it was estimated that some 80 percent of the non-slave workforce were individual proprietors, property owners, and professionals who were "self-employed" to use the expression of modern statistical reports (Main 1965: pp. 271-272). By 1880 a profound transformation had taken place in the organization of work with about 80 percent of the population working as wage and salary workers in relatively large organizations that were removed from the household. Over the same period the system of schooling grew from one in which there existed no extensive network of public schools in 1780 (Main 1965: p. 241) to one in which some three-fifths of the population between 5-17 were enrolled for an average school year of 132 days in 1880 (U.S. Department of Health, Educatio and Welfare 1976: p. 178). Further, the growth of schooling followed a pattern in which expansion was most rapid in those geographical areas where factory production grew most quickly (Field 1974).

The period from 1890-1930 saw the rise of the corporate form of production in large bureaucracies with growing monopoly power over both product and labor markets (Edwards 1978). During this period, hierarchy and centralization of production increased as well as the minute division of labor associated with the practices of scientific management and the theories of Frederick Taylor (Haber 1964, Nelson 1975). Likewise, the schools followed this pattern with major changes in their organization including the development of larger schooling units through consolidation and centralization, the initiation of age-grading of students, standardization of different curicula, testing and tracking of students to assign them to different curricula and the adoption of many other "modern" factory practices in terms of the organization of production and the grading of "products" for positions in the hierarchy of production (Bowles and Gintis 1976: Chapter 7, Tyack 1974: Part IV).

In the post-1960 period there has been a profound shift from manufacturing to services and a need for a larger and larger white collar proletariat. The jobs that have been created are largely sub-professional ones for office workers, salespersons, and technicians, and the skill requirements of such jobs have been declining as sophisticated capital and new technologies have automated work tasks (Cooley 1980, Braverman 1974). This phase has corresponded with the advent of mass higher education in which two year community colleges and four year colleges with practical career training have replaced the more classical academic and professional preparation that was traditionally associated with colleges and universities (Bowles and Gintis 1976: Chap. 8, Karabel 1972). Of course, the elite colleges and universities have largely main-

tained their traditional functions, while the expansion of training for the white collar proletariat has occured at community colleges, technical institutes, and the less prestigious four year colleges and universities.

Not only historically could one observe the correspondence between changes in the workplace and major organizational changes in education, but one can observe a remarkable similarity at any moment in time between the two sets of institutions. Just as the workplace tends to be organized into hierarchies with highly regularized rules and regulations comprising their operations, so are educational institutions. Just as most workers lack control over the process and product of their work activity, so do most students in the sense of being forced to conform to curricula and learning activities that have been planned and elaborated in great detail without the input of the students whom they effect. Just as workers tend to provide their labor in exchange for extrinsic rewards such as wages, salaries, and promotions, so are students motivated by factors external to the learning process such as grades, promotions, admissions to more advanced programs, and diplomas. And just as work supervisors, whose legitimacy does not derive from democratic selection, determine the level of success of individual workers, so do teachers determine which students will succeed and receive the highest awards and which will not. Indeed, the systems of social control are remarkably similar, with individual students competing against each other for advancement to the higher echelons of education just as individual workers compete against each other for occupational advancement.

Finally, both the educational system and the workplace are highly stratified by social class origins, sex, and race.[2] Students from working class backgrounds and racial minorities are least likely to go to the better schools or to higher levels of instruction, and they do most poorly in terms of the criteria that schools use to assess performance. They are less likely to complete secondary school and to attend the university. Likewise, females are less likely to be found in post-secondary programs that are highly competitive, prestigious, and lead to rewarding occupational positions. Corresponding with their educational treatment, the same groups are likely to be found in those occupations with the lowest pay and prestige and to experience higher levels of unemployment than are males and persons from higher social class and majority origins.

How can such dominant patterns of correspondence between schools and the workplace be explained? There seem to be at least four ingredients to this dynamic. First, the fact that technological changes and concepts of efficiency and management have generally proceeded historically from the business sector to government has also applied to the schools. Particularly at times when rapid technological change in the organization of production and management techniques has taken place, managers and trustees of the schools have been heavily influenced by such practices. As Callahan (1962) demonstrated, the practices of scientific management in the workplace became embodied in similar attempts by educational administrators and school boards to impart the same types of features to schools that would improve their efficiency. In a capitalist society, the principles of capitalist organization at the forefront

became the benchmark of progress by which efficency in other organizations was judged, and there has typically been a transfer of many organizational practices from the former to the latter. This process was further accelerated by the heavy representation of businessmen on governing boards of state departments of education and local governing boards.

Second, correspondence is enhanced by the interest of the state in utilizing education to reproduce its major features and prepare citizens for appropriate roles in its institutions. As such, education is sponsored by the State and is mandated, organized, and certified by the State. The specific requirements for degrees, required courses in the basic school curriculum, mandated testing programs and teacher requirements, textbook selection, and a host of other factors reflect the world for which schools are preparing youngsters. That is, the political process itself that sets out these provisions is heavily influenced by the "practical" purposes of education in preparing students for eventual work roles in the economy. Finally, a major role of schools is to legitimate existing institutions so that they will be accepted by their citizens who will become easily integrated into their functions as they reach adulthood. Thus, the State plays an important role in adapting schools to the reality of the workplace.

A third source of correspondence is that the reality faced by families in the workplace heavily influences their views on what is important to learn in school. By the turn of the century, the importance of schooling for occupational success had become readily apparent in America. Thus, it was rather natural to accept the view that just as

discipline and order, hierarchy, lack of control of the work process, and motivation through the use of extrinsic rewards were dominating increasingly the work process, it was also increasingly logical and legitimate for such characteristics to dominate the schooling process as well. If the young were to eventually succeed in their occupational advancement in the expanding industrial economy, the schools had to provide them with the skills and values that would enable them to meet the dictates of the workplace. Thus, families and students were themselves a part of the social constellation of correspondence in that their expectations and demands tended to mold the reality of the schools and the acceptance of correspondence through both their inputs into the political process affecting schools as well as through their educational behavior within schools.

A fourth source of correspondence has been that of teacher willingness to accept the exigencies of preparing students for the eventualities of the workplace.[3] Persons recruited into teaching are already self-selected in the sense of accepting the nature of the teaching role in a highly circumscribed environment. The organization of the learning process, time allocation to specific subjects, curriculum, pedagogy, instructional materials, and test instruments for assessment of learning are typically set out in fine detail, and the teacher is inserted into that process with relatively little autonomy. That is, teachers accept positions in which they are willing to relinquish substantial control over their own work activities. Second, teachers are realistic about the characteristics that will be required for student success, so it is little wonder that they have lower expectations for minorities, females,

and the poor than for non-minorities, males, and students from advantaged backgrounds. They are just accepting the nature of the world for which they are preparing youth. Even if they find these differences to be morally objectionable, they feel frustrated in their attempts to change them.

Finally, just as a major source of socialization to work for all workers is created by the ideology and functioning of the workplace itself, teachers are also influenced by their own work experiences. Over time, those teachers who accept the conditions of their own workplace are also less likely to question the nature and meaning of their own practices. Or more pragmatically, they may accept them as a matter of survival. As a major analytical survey of schoolteachers stated:

> There is a certain ambivalence, then, in the teacher's sentiments. He yearns for more independence, greater resources, and just possibly, more control over key resources. But he accepts the hegemony of the school system on which he is economically and functionally dependent. He cannot ensure that the imperatives of teaching, as he defines them, will be honored, but he chafes when they are not. He is poised between the impulse to control his work life and the necessity to accept its vagaries. (Lortie, 1975: 186.)

Teachers accept the terms of control over students, space, supplies, and schedules that is set out for them: "For at the base of teacher status is the indisputable contraint that without access to a position in the schools the teacher cannot practice his craft (Lortie 1975: 185)."

In conclusion, the process of correspondence between the functions of schools and the requirements of the workplace is less a function of direct capitalist control of the schools than of the perceptions of the major actors who dominate schooling on what schools should be in socie-

ties where educational attainment and occupational attainment have been inextricably intertwined and where the limits of what is desirable and possible is largely molded by social reality (Berger and Luckman 1966). To the degree that state actions have placed limits on deviations from this path, one can point to an instrumentalist state as insuring correspondence (Althusser 1971, Broady 1981). However, it is also widely recognized that schools are not mere mirrors of the capitalist workplace any more than the capitalist state is a mere instrument of the capitalist class. Rather, both the state generally and the schools specifically must mediate contradictions between labor and capital and conflict among fractions of both capital and labor. In that sense the school has a dynamic which is partially autonomous from the workplace and in which there is always a tendency to deviate from a pattern of correspondence.

Education and the Workplace: Contradiction

Preparing the young to be good workers is not the only function of schools. They also have other important functions for reproducing the larger societies of which they are a part, with particular emphasis on the reproduction of the citizen as well as worker. The good citizen must accept the legitimacy of the political, economic, and social system and embrace its over-riding rationale and ideology. But the making of the citizen in a democratic society will often be in conflict with the making of the worker. For example, in order to accept the capitalist mode of production, the worker must accept the hegemony of capital over labor. Yet, in the political arena each worker and capitalist has an equal vote and workers far exceed capitalists in numbers. Moreover, the

laws are to be applied equally to all citizens. In the United States the Constitution guarantees the right to freedom of speech and assembly, as well as many other basic political rights, but these are circumscribed from the workplace by an authoritarian regime. Thus, preparation for the restrictions of working life and for the freedoms and rights of political life may be in direct conflict with each other (Gintis 1980).

In fact, the schools are expected to reproduce a variety of outcomes which create internal contradictions in their functioning. By contradiction we mean that the schools must operate in a way in which there is internal opposition and struggle in their actual functions so that they can not easily maintain a smooth path of reproduction. To take a major example that is pertinent to the workplace, we have suggested that the schools must prepare a hierarchy of workers with the appropriate skills and attitudes and in the appropriate proportions for the needs of the labor market. Yet, at the same time the schools represent the foremost institutions for providing equality of opportunity and access to social and occupational positions according to merit. For most parents and their offspring, the only hope for success and upward social mobility is by doing well in school. Even though the schools are hardly neutral according to social class background, it is obvious that those who obtain higher educational credentials will have greater life chances than those with lesser educations.

This factor leads to a self-sustaining political demand for educational expansion and for democratic reforms of schooling such as the comprehensive secondary school reforms of Western Europe (Levin 1978).

But, the expansion of secondary schools leads to demands for more university opportunities, and soon the output of students who have completed secondary school and the university must necessarily exceed the ability of the economy to absorb them in appropriate jobs (Rumberger 1981). Private control of the economy limits the ability of the state to create policies for absorbing the additional graduates, so serious problems of educated-unemployed or under-employed arise. These put pressure on the state to expand public sector jobs, a phenomenon that is limited by fiscal resources. At the same time, the incentives to get even more schooling become more pronounced in an increasingly competitive labor market as individuals try to get an "edge" on their competitors.

The overall result is that although the schools continue to be in correspondence with the workplace in many respects, they are substantially out of correspondence because the democratic reforms and political pressures on schools have contributed to an over-educated labor force. The problem is especially aggravated as many jobs are transformed into ones with lower skill requirements by the application of modern technology and the micro-processor revolution (Cooley 1980, Goldhaber 1980). The over-educated workers are unable to fulfill their expectations for jobs with the skill requirements, prestige, income levels and future occupational mobility that are commensurate with their educational attainments. Further, the slow rates of economic growth at the present and in the forseeable future do not suggest any improvement in their longer term prospects.

Under such conditions, the system of education has actually served to undermine existing forms of production by creating a highly dis-

gruntled, overly-educated workforce that is not easily integrated into the workplace.[4] Instead, such persons are responsible for increasing problems of worker turnover, absenteeism, alcoholism and drug use, sabotage, and lagging productivity. In fact, it is exactly this behavior among young workers that is leading increasingly to modifications of the workplace in the directions of greater worker participation and democracy. It is believed that by more fully meeting the needs of the worker to participate in his or her daily worklife and be a member of a participative community in lieu of some of the more traditional job incentives, that the worker will also become more productive with respect to his or her work effort and work behavior.

In summary, the schools both reproduce wage-labor for capitalist and state enterprise while undermining the nature of that relation over the longer run.[5] As the divergence between the needs for properly socialized labor and the output of the educational sector diverge, major problems arise in both schools and the workplace. Over time, the independent dynamic of schools will tend to undermine the correspondence between education and the workplace and exacerbate conflicts in the workplace that are attributible to the fundamental contradiction between capital and labor. At that stage the schools no longer serve to mediate that contradiction effectively by reproducing wage-labor that will submit to the hegemony of capital and the extraction of surplus for capital accumulation. This divergence between education and the workplace will stimulate reforms in both sectors that will once again re-establish correspondence.

Such a turning point seems to be emerging at the present time with the over-expansion of the educational system relative to available job opportunitites. The addition of many young and over-educated workers to the labor force is creating a productivity crisis for capital that can only be resolved by major alterations of the workplace. These changes in the workplace will ultimately lead to changes in education through the mechanisms of correspondence, and productive structures and schools will once again function in tandem. The specific educational reforms that will be adopted from a large number of competing reforms will tend to be those that re-establish correspondence rather than those that are most intellectually or morally compelling.

Educational Change and Organizational Democracy

Thus far I have suggested some of the sources of both stability and change in education as well as consequences for the workplace. But, the question of what shape the educational system will take to support changes in the workplace wil depend on the nature of the specific alterations of work. The potential variety of forms of educational organization can best be appreciated by providing a few very diverse examples. Each of the following educational approaches corresponds to a specific work order.

The Lancasterian system or monitorial system was the basis for elementary education in Britain, and it was also adopted by such major cities in the U.S. as Boston and New York (Kaestle 1973, Lancaster 1973, Reigart 1916). Joseph Lancaster started a school for poor children in London in 1798 at the age of 20. Because of the lack of alternative edu-

cational opportunities, he attracted a very large number of boys to his school. Thus, he was faced with the challenge of how to accommodate so many students with only meager resources. Having natural organizational skills, he decided to utilize those children who had already gained at least some skills to serve as monitors for those who had not reached that level. Ultimately, he organized the entire curriculum into a series of tasks that had to be learned under monitors who had already learned them. Under a single master and a monitor for each nine or ten students, the school functionined in a factory-like way.

Each new student was assigned to a monitor who had charge of teaching him and some eight other students at that level. When the student made progress, he was promoted to another monitor. Monitors were also assigned to preparing supplies and other tasks, and a monitor- general supervised the other monitors. Students were expected to learn specific information or skills by rote, and through a system of badges for achievement and punishments for poor learning or behavior the students were motivated to move from one level to the next. Each monitor was placed in charge of a row of students, all charged with the same set of learning tasks. When these were accomplished, students were moved to the next row to accomplish a new set of tasks. The layout of the room, the supervisory process, and the methods for motivating students to learn were remarkably similar to the emerging factory system of the early nineteenth century. Therefore, it is not surprising that for five decades, the Lancasterian system was the dominant mode of instruction in the expanding primary schools and many of the industrializing cities of both England and the United States.

But, the early nineteenth century was not devoid of competing ideas for education. Especially important were the views of the Swiss educator Pestalozzi who had developed a "natural" system of education that was more child-oriented in its focus. Joseph Neef was a student of Pestalozzi who first introduced the ideas of his master into the United States.[5] Neef started a school in Philadelphia in the first decade of the nineteenth century that was designed around the educational principles of Pestalozzi. However, Neef carried the ideas of democratic organization of schools much farther than Pestalozzi. In 1807 he published a Sketch of a Plan of Education Suited to the Offspring of a Free People.

In this book Neef outlined a plan for a self-governing school or school republic. Schooling would begin with very young children being taught a sense of their rights and duties as well as the importance of reason in setting their behavior. At some point, the children would be told that they were now free to form their own republic with a constitution and laws set out by the students themselves. The constitution would set out both rights and duties of the members of the republic as well as the method by which laws will be passed and enforced. The students were free to accept or reject their former teacher into their community. Presumably, the role of that person as well as what would be taught and learned was determined by the youth assemblage. It was intended that a self-governing school would be the educational basis for a self-governing society.

Possibly, Neef's views would have long been obscured except for the fact that he was called upon by Robert Owen to establish and direct the

upper school (students of 5-12 years of age) in the utopian community of New Harmony. Although Neef had attempted to put his ideas into practice at an earlier time, they had not been inserted into a community based upon social ownership of property and democratic organization of production. In the Owen community the correspondence between the ideas of Neef and his mentor Pestalozzi and educational patron, William Maclure on the one hand, and the communitarian attempt of Owen on the other, were more substantial.

If the Lancasterian approach was supportive of the emerging industrial order, the self-governing school of Neef was supportive of the establishment of worker cooperatives. In fact, the schools were to be self-supporting economically by introducing the industrial, manual, and agricultural arts into the curriculum in an active way so that through productive work the students would provide for their own needs. As Maclure explained: "...the great economy of enabling children to feed, clothe, and educate themselves by their own exertions; thus rendering them independent of the labor of others and establishing an equality founded on each administering to his own wants from the most early age (Lockwood 1971: p. 270)."

The short-lived nature of New Harmony precluded the full development of the self-supporting, school republic. Without a community based upon social ownership of the means of production and both political and economic equality in the fullest democratic sense, there could be little demand for such schools. However, almost a century later similar principles were enunciated by John Dewey in his quest for democracy in education (J. Dewey 1916). Dewey argued that education was essentially a

moral activity in that it is a way of shaping future society through molding the experiences of the young. If one could create ideal social communities in the school, through social growth these would create the future adult society. Accordingly, Dewey argued for full democratic participation in schools where activities were undertaken for their intrinsic worthwhileness, rather than molding schools according to how they prepared workers and citizens for an existing social order that he considered reprehensible for its inequalities, manipulative institutions, and meaningless work roles.

In contrast to the correspondence principle, Dewey believed that through educational reform one would remake the social order to conform with the highest principles of democracy. In fact, Dewey had a vision of industrial democracy based upon social ownership of property and the full participation of all workers into the transformation of the work process that would be intrinsically satisfying to all of its participants. Scientific rationality in the service of democracy could bring this end about, and the progressive school of Dewey was the fount from which these social transformations would arise (Wirth 1981).

Dewey had a profound impact on American intellectual life and upon school reform movements (Cremin 1964), but the public schools of America remained far more faithful to changes in the work order than to the philosophy and pedagogy of Dewey. Despite the substantial power of the Progressive Education Association which espoused Dewey's views at both the universities and in the major cities of the country (Graham 1967), the schools followed the pattern of education for social efficiency. Thus, the business-like practices of curriculum uniformity, standardized

testing, tracking or streaming according to "aptitudes", school consolidation and centralization under a profesional bureaucracy, and systems of extrinsic rewards to provide motivation became the dominant features of schooling (Tyack 1974: Part IV and V). The reform movements of progressive educators and active citizens and the profound logic of the progressive schools were hardly a match for the powerful forces pulling schools into correspondence with the changing workplace (Wirth 1977).

Thus, historically there have existed a number of approaches for democratizing the schools, but they have not been consistent with the exigencies of the workplace. Although schools do have their own independent dynamic which may diverge over the longer run from a strict pattern of correspondence, major educational reforms seem to succeed only when they serve to pull education back into correspondence with the changing needs of the workplace. Accordingly, any analysis of how schools might change to accommodate a more participative and democratic workplace must begin with the concrete forms of workplace reform.

Democratic Workplace Reforms and Educational Requirements

There are two problems in specifying democratic workplace reforms and their educational consequences. First, there are so many potential and actual directions that democratization of the workplace can take from co-determination and workers on the boards to greater use of worker councils to worker cooperatives to socio-technical approaches such as team assembly (Jenkins 1974). Even these do not include the more cosmetic forms of participation that are often initiated by firms in the hope of getting large increases in productivity for only minimal changes in

work organization. Yet, it is necessary to specify concrete forms of democratization in order to specify their educational consequences in the overall framework of correspondence.

Second, even when concrete forms of democratization of work organizations are specified, the educational consequences are not always straightforward. For example, relatively minor changes need not require any changes in formal education or training, but only learning-by-doing. Even more substantial changes in work organization need not affect the schools, since work experience itself is a powerful teacher. In fact, in a cross-national study of determinants of modern attitudes—defined as those required for participation in large-scale modern productive enterprises such as the factory—years of education was found to be the most important determinant; however, exposure to mass media and work experience had relatively strong estimated impacts as well (Inkeles and Smith 1974).[6]

A further complication is introduced by the fact that the movement towards organizational democracy may take different forms in different countries. The industrial composition of production, the political party in power, the nature and strength of trade unions, the history of industrial relations, the degree of multinational penetration, and the degree of monopoly concentration of industries are all factors that will determine both the nature and speed of workplace democratization. Under such conditions, it is difficult to generalize about what will take place and its specific educational consequences. However, it is useful to look at the Swedish case as a proto-type of what might take place in other advanced industrialized countries. Although the overall legis-

lation on industrial democracy that has governed industrial relations in Sweden since 1976 is extremely important in this regard, I will refer only to the use of team assembly as a concrete form of democratization at the plant level.

As I discussed previously, one of the major quandaries faced by firms in the advanced captitalist countries of Western Europe and North America is that of lagging growth in labor productivity. While there are probably several causes for this phenomenon, one of the most likely appears to be the "new" labor force. Young entrants to the labor force tend to have more education than will be required for the types of jobs that they are likely to obtain (Rumberger 1981). Given that the job challenge, status, pay, and opportunities for promotion will tend to be below their expectations, such workers are not as easily integrated into the traditional wage-labor relations as their predecessors. In particular, many industries have found serious problems of worker turnover, absenteeism, insolence, sabotage, drug and alcohol utilization, and quality control in conjunction with the "new" worker.

Since the lack of opportunities and slow economic growth prevent the improvement of worker behavior through the more traditional economic motivators, firms have looked increasingly to new forms of production that might satisfy some of the intrinsic needs of workers. Among the most important of these are the applications of the socio-technical work approaches associated with the Tavistock Institute in London and the Work Research Institute in Oslo (Emery and Thorsrud 1969, Herbst 1962, and Thorsrud, Sorenson, and Gustavsen 1976). This approach divides the functions of the organization among relatively small work groups that

make decisions on how the work will be performed. The assumption is that most employees can relate much better to a small and identifiable group of which they are members and who are charged with a specific subcomponent of production than to a large impersonal organization in which they execute one or two repetitive tasks.

This attachment to the group and the high level of communication and interaction among its members foster the ability of the group to make internal decisions about the work process. While the group is accountable to a higher level of management for its overall performance, the internal assignments, scheduling, training, and consideration of new work practices are relegated to the work group itself. A number of successful cases using the socio-technical approach to democratization of the workplace have been documented (G. Susman 1976). Some of the best known cases are found in the application of these ideas to automobile assembly as in the case of Volvo (Gyllenhammar 1977) and that of Saab.

For example, the Saab plant in Trollhattan had a worker turnover of 78% in 1970-71.[8] Mangement and the union initiated an experiment in 1971 to reduce turnover of employees and improve quality through team assembly of car doors. The success of this venture led to group production of full car bodies in 1975 with teams of seven workers including one group coordinator and the other six working in pairs. The coordinator is responsible for assuring an adequate supply of materials and covering temporary absences. The position of coordinator is rotated among members on a weekly basis. The team does most of the maintenance of its machinery, most quality control, and in consultation with manage-

ment hires new members and allocates a budget for the purchase of new equipment. The group is also charged with training new members.

Workers have gotten a slight increase in wages for managing their affairs and seem to prefer the team approach when interviewed, and the enterprise has found that the investment in team assembly has been extraordinarily profitable. Quality control has improved, and the number of quality control supervisors has diminished. Other savings in labor costs have been effected by drastic reductions in worker turnover. In 1974 worker turnover for the body assembly plant was 53%, but by 1980 it had declined to about 14%. The annual savings were estimated to be about nine times the annual costs, and Saab recovered its full investment for converting from assembly line to team assembly in only two and a half years. In short, these types of change are consistent with the logic of capitalism and represent an effective way of reducing costs and raising productivity. It is probably reasonable to assert that democratization of the capitalist workplace will only take place if it meets the requirements of increasing profitability of the firm. For this reason, the use of team assembly is likely to expand substantially in Western Europe and North America.

Educational Consequences of Team Assembly

If the use of work teams were to become more widespread, we might expect to see major changes in school organization. The assumption of a predominant shift in the workplace is a crucial pre-requisite for corresponding changes in schools. The principles of correspondence whether through the laws of the state, the behavior of educational profession-

als, the demands and expectations of parents, or the values and expectations of students will only be called into play through pervasive alterations in work organization. Experiments in work reorganization and occasional modifications of practice are less likely to visit their effects on the overall system of socialization for work. Moreover, as I noted above, the workplace in itself has profound effects on shaping the behavior of its participants, so changes in school socialization are not always required. It is only when there is a major turning point in productive organization that it is likely that there will be consequences for the system of schooling. At least four changes in workplace behavior are associated with team assembly and each has educational implications.

1. Educational Decision-Making

A major shift reflected in team assembly is the emphasis on group decisions by those who will actually perform the work. The more traditional approach separates the planning and evaluation of work from its execution, with the former done by managers and technicians and the latter by operatives. But, under team assembly, workers must carry out all of these functions as well as train, select, and counsel members of the group and make decisions on the selection and maintenance of equipment. In contrast with the present educational system where the emphasis is on functioning as an individual in competition with fellow students, a corresponding education would emphasize functioning as a member of a cooperating group.

There are many potential educational reforms which would support these changes in socialization. These would include a greater emphasis

on democracy in the school setting with greater internal participation of students in selecting personnel, curriculum, resource allocation, and conflict resolution. Through both representative and participatory democracy, the fuller involvement of groups of students (and perhaps teachers as well) would become part of the educational decision process. There would also be greater emphasis on group projects and assignments with respect to school activities and group awards in place of strictly individual performance and accountability. Schools would place greater emphasis on integrating student teams by race and social class as a reduction of hierarchy in production reduced the need for student stratification and hierarchy in education.

The emphasis on group decision-making would also increase the use of cooperative modes of interaction in schools, both among teachers and among students. Cooperative work among small groups and training in group dynamics would become appropriate (Sharan 1980). Cooperative problem solving would also become more prominent in the school curriculum, as the work teams will be faced with particular challenges that will require a collective response (Slavin 1980).

2. Individual Decision-making

Under existing forms of work, most workers need make few individual decisions because to a very large extent the nature of the work tasks and their pace are determined by the equipment, technology, and organization of production. With a high level of specialization of task, it is only necessary to master relatively few and simple job components and perform them on cue. But, under a team assembly approach, individuals will have a much wider range of potential tasks and decisions. For exam-

ple, each coordinator will have to make decisions regarding the availability of supplies and the allocation of team members to avoid bottlenecks. Accordingly, it is likely that schools will shift their emphasis to a much greater extant than at present from memorization and routinization of learning to individual decision-making and problem-solving. The fact that individuals will have to make more workplace decisions as individuals as well as in their roles as members of a small collectivity will mean that they will have to be able to use information to provide insights to the work team as well as to intervene when needed in the production process.

3. Minimum Competencies

At every educational level, existing schools tend to produce a wide range of competencies which are functional to production as long as there is a substantial hierarchy of skill needs. But, as the organization of production shifts to team assembly and a flatter hierarchy, large differences in skill levels are dysfunctional. That is, team assembly will require that all members of the team have skills and knowledge that are more nearly equal in order to share tasks and obtain full participation of all members.

These needs suggest two reforms in educational testing and curriculum. First, educational testing will tend to shift from an emphasis on normative tests to criterion-based ones. Normative tests represent an attempt to rank students on a distribution of performance without concern for what is good or poor performance in an absolute sense.[9] That is, norm-based tests can only indicate who is better or who is worse in a particular domain. They cannot indicate whether one meets a particu-

lar standard of performance set out by an external criterion. In contrast, criterion-based tests set out particular guidelines of performance and measure proficiencies of students according to whether they meet those standards. Given the importance of assuring that members of the work teams have the proficiencies to function in all phases of their work, it is the latter that is more important. Accordingly, it would appear that minimal competency approaches using criterion-based tests will become more prominent.

In a related way, a curriculum based upon mastery learning approaches is likely to rise in importance (Block 1971 and 1974, Bloom 1976). Mastery learning begins with the assumption that all students can meet minimal proficiencies if given the appropriate instruction and adequate time to meet those standards. The educational challenge underlying mastery learning is to organize the curriculum and instruction to bring all students up to mastery levels--as measured by criterion-based tests--in all of the relevant skill domains. Although mastery-learning is not a dominant medium of instruction under a school organization which is predicated upon producing educational outcomes that are highly unequal and that rank students according to who is best rather than what is known, the mastery learning approach would seem to correspond more closely to producing the skills needed by work teams.

4. Peer Training

Finally, under the team assembly approach, workers would be trained by fellow workers as new members were added to the teams. In this sense, all workers will have to have the capabilities of training their peers on the various tasks that the team performs. Under the more tra-

ditional forms of work, training is generally relegated to a few specialists or supervisors who are given responsibilities for initiating new workers into their roles. Likewise, in existing schools the instruction is the delegated responsibility of teachers and other instructional personnel.

The widespread shift to team production is likely to stimulate a much greater emphasis on peer tutoring in the schools. While there have been many demonstrations and experiments with students-teaching-students, the practice is not widespread in education (Ehly and Larsen 1980; Newmark 1976; Verduin and Miller 1977). Those experiments have shown that peer tutoring improves the performance and sense of efficacy of the tutor as well as the performance of the tutee (Allen 1976). Thus, there appear to be significant educational payoffs, in themselves, from this approach. But, even more important, a proliferation of peer tutoring in the schools will make every individual both a teacher and a learner. This is a central premise of the team approach, and it is also a more general feature of a democratic organization.

Summary

The preparation of workers for organizational democracy must take place at many levels. These include the family, media, trade unions, schools, and, of course, the productive enterprise itself. However, the role that must be relegated to schools, if such changes in productive organization were to arise, must be considerd one of the most crucial. Historical analysis suggests that the lack of greater democracy in school organization is not attributible to a poverty of ideas as much as

to a lack of movement in the productive sector itself to embrace democratic forms. If there is a signal move among work organizations to adopt greater democratic processes in their operations, it is likely that parallel changes will ultimately pervade the schools.

To the degree that such possibilities exist at present, they would seem to be driven by the productivity crisis of the seventies and eighties, a dilemma that derives at least partially from the lack of fit of the new and over-educated worker. Firms are likely to try to obtain greater commitment and work effort from the "new" worker through an emphasis on participation in small groups that take responsibility for producing a sub-assembly or other component part of the product. There exist a wide range of educational reforms that have been tried and developed in some detail, but that have not seen widespread adoption in the schools because of the lack of demand for such reforms in the past. In this article it was asserted that future events may make such reforms highly functional.

Footnotes

1. A more comprehensive exposition of the history that underlies this treatment is found in Bowles and Gintis 1976. A fuller treatment of the conceptual integration is found in Bowles and Gintis 1976; Carnoy and Levin, forthcoming; Lempert 1981; and Levin 1980 b. Specific details on the relation between workplace changes and educational changes are reflected in the dialectical model as presented in Carnoy and Levin, forthcoming and Levin 1980 b.

2. Evidence of differences by sex and social class for Western Europe can be found in Levin 1976; for black-white differences in the U.S. in Levin 1979; and for social class differences in the U.K. in Halsey, Heath, and Ridge 1980.

3. Increasingly there is evidence that the educational process is under control of "new" curricula that set out mandated activities for teachers and students in fine detail, leaving little autonomy for either group as described in Apple 1981. A more general analysis of the system of social control and its origins and logic as it affects teacher practice is found in Levin 1980 a.

4. For a more detailed analysis, see Levin 1980 b, pp. 157-166.

5. The details on Joseph Neef are taken from Lockwood 1971: Chap. XX.

6. Further, the trade unions and political parties also have an important educational role to play. For a trade union educational program on industrial democracy, see Turner and Count 1981. The role of a revolutionary party and worker councils at the plant level in a democratic tranformation of the workplace is discussed in Carnoy 1981. Also see the discussion by Schuller 1981 on the nature of discourse and its educational implications with regard to industrial democracy. Gamson and Levin 1980 address issues of worker socialization in worker cooperatives.

7. This seems to be the underlying motivation for the well-known U.S. government report on Work in America. See U.S. Department of Health, Education, and Welfare 1973.

8. The information on Saab/Trollhattan is taken from Logue 1981.

9. For a discussion of these issues, see U.S. Department of Health, Education, and Welfare 1979.

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