ABSTRACT: This article starts with the animal assumption that it is possible to allocate merit and then raises the question of how merit shall be distributed. Who merits an increase in merit? This question is the springboard for a discussion of distributive justice in education which focuses on the distribution of symbols of educational merit, grades. The article discusses the social function of the artificially created shortage of high marks and considers different characteristics of grading systems. The effects of cooperative and competitive distributive systems are summarized. The article concludes with the question, Is the competitive-hierarchical atmosphere (induced by the competitive distribution system used with respect to grades in the classroom) is not good for our children, is it good for us?

Let me begin by asking you to project yourself into a hypothetical future in which biopsychologists have arrived at a deep understanding of the relationship between brain processes and behavior. Also suppose that they have developed a technology that permits brain processes to be altered by complex training procedures that can be employed with anyone who is willing to undertake the training, provided that the individual’s brain is not substantially defective or impaired. Further suppose that three basic types of training procedures have been developed: one that approximately doubles the cognitive capabilities of the trained individual, one that doubles the strength of the individual’s drives or motivation to be effective, and one that instills a high level of commitment to the dominant moral values held within the individual’s society. An additional supposition is necessary: Each of the three types of training procedures is very costly when done properly, when not done properly they lose their effectiveness and have harmful side-effects. Imagine now that you are the philosopher-king in this hypothetical world of the future. How do you assign these costly and, hence, scarce training resources? To paraphrase a legal scholar, M. H. Shapiro (1974), in

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effective and the related sense of personal effectiveness, and the development of social and moral values. The three hypothetical training methods were selected to be relevant to these three important goals of formal education. It appears that current training methods are not as effective as we expect future methods to be. Nevertheless, even our present ones can be said to distribute merit. There is considerable evidence that indicates that one's educational status and, to a lesser extent, one's income are influenced by the amount and kinds of schooling one has had (Hauzer & Daymon, 1973; Justice, 1975). Moreover, there is some suggestion that initial merit prior to formal schooling, as indexed by early IQ and family background, may interact with the merits derived from schooling to augment the total merit one ends up with. Those with high IQs have a higher net return in occupational status and income for each additional year of education than those with low IQs (Hauzer, 1973; Turner, 1978). This may be in part because those with high IQs receive a better quality of education and more education than those with low IQs (Rosenbaum, 1976), but it is more likely that those with high IQs gain more from a given amount of education than those with low IQs. Here, too, the rich get richer.

The term reservation authority has been employed by Shapiro (1974) to characterize attributes that tend to attract other resources because they give the possessor an advantage in a competition for these other resources. The attributes of merit—ability, drive, and character—are clearly resource attracting. A student with a high rather than a low degree of these attributes is more likely to get into a top-notch university, to work with a first-rate professor, and so on, and is more likely to enhance his or her relative advantage to collect further resources. The result of such an accumulation of attributes that function as resource attracting is to give those who have accumulated these valuable resources the power to determine how further resources will be distributed. They may decide who will be awarded the conditions that favor the development of the attributes of merit, or that may redistribute the attributes of merit to that race, class background, sex, and other ascribed characteristics rather than ability, drive, and character become the indicators of merit. They may reshape the system of distributive justice to maintain their relative advantage or to pass it on to their children, even when they or their children no longer meet the advantage. In brief, the accumulation of power tends to corrupt.

The twin tendencies of the rich to get richer and of power to corrupt pose key problems for a system of distributive justice based on the value of individual merit. Yet an opposing problem arises when one contemplates the possibility of doing without a merit system: Will those who have high merit use and make available the resources of their meritous capabilities in the system of rewards within a society not be responsive to their individual merit? Other dilemmas arise when other distributive principles are employed.

I turn now to a more systematic discussion of distributive justice. The concept of distributive justice is concerned with the distribution of the conditions and goods that affect individual well-being. With regard to any system of distributive justice, one may ask a number of questions to identify the key characteristics of the system.

1. What is distributed, how much of it is available for distribution, and what is its quality?

2. People involved. To whom is it being distributed and by whom?

3. Style and timing of the distribution. How and when is it distributed? Secretly or publically? With or without explanation of its meaning and its possible consequences? Witlessly or unwittingly?

4. Values. What are the values underlying the distribution?

5. Effects. What are the effects of the distributive system on individuals within it, on different categories or groups of individuals, and theinterrelations among different individuals and groups, and on the cohesiveness and productivity of the entire system?

Educational systems distribute many different rewards and costs to many categories of people—students, teachers, administrators, parents, taxpayers. Different values and procedures may underlie the distribution of different goods. Thus, some of our preliminary research with teacher indicators that they use different values in distributing attention and grades to their students. In the present article I will not be able to consider the great variety of distributive systems that exist in education. For illustrative purposes I focus on something so widely distributed in our schools that it might be considered the basic currency of our educational system: I am referring to grades.

Let us consider the distribution of grades among students in a classroom in relation to the questions I listed above.

What Is Being Distributed, How Much of It Is Available, and What Is Its Quality?

There are numerous definitions of what a grade or mark is, but most agree that it is an evaluative symbol intended to be motivational significance to the student, apart from whatever other institutional functions it performs for parents, school systems, and teachers. The student would presumably be motivated not only by immediate approval or disapproval from his or her teachers, family, classmates, and others who are significant to the student as a result of his or her grades but also by the more distant consequences of the grades—the perceived improvements or worsening of his or her chances to get into desired future educational settings and occupations that employ grades as part of their selection procedures. Of course, if no one in the student's family or peer group cares about grades, or if they are only concerned that he or she obtains passing marks, or if the grades are playing some other role, then the distribution of grades is not playing an important role in the social conditions of the student.

If we examine the individual correlations of grades, of educational merit, it seems evident that they are similar to the characteristics of sociocultural merit described above: ability, drive, and social character. Now, in the context of merit, there is a strange thing about the distribution of grades in most American school systems: There is an artificially created shortage of good grades to be distributed. High grades are typically limited by grading curves or norms which, in effect, restrict the total number of high grades to be distributed within a group of students. These distributions

Note that this is not set over the whole high school; they are subjected to much greater economic than educational distribution. Also note that almost all of the effects for making decisions about any of the foregoing are the same. Schema of the moral community. What is the effect of the distributive system? To whom does it apply? In Experiences: How legitimate is acceptable to the distributive system considered to be by the various people involved in it?

In conclusion, How are the violations and violations of the distributive system punished?

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are not simply reflections of the "natural" normal distribution of educational achievement among students. I believe the opposite is true: Educational achievement is measured to as conforms to an assumed underlying distribution. The social context of most educational measurement is that of a contest in which students are measured primarily by being compared with one another rather than in terms of objective criteria of accomplishment. If educational measurement is not mainly in the form of a contest, why are students often asked to reveal their knowledge and skills in carefully regulated tests situations designed to be as uniform as possible in time, atmosphere, and conditions for all students? Individuals vary enormously in terms of the amount of time they need and the kind of atmosphere and circumstances that facilitate or hinder the expression of their knowledge and skills; it is only the comparison of students with one another that requires measures of educational achievement to take the form of contests.

What function is served by the artificially created scarcity of high marks? On the face of it, such an artificial shortage does what we know about the cultivation of ability, drive, and character; namely, if there are manifestations, recognizing and rewarding them will be apt to foster their development. Disappointing rewards, induced by an artificial scarcity, are likely to dampen the development of educational merit and the sense of one's own value. Strange things, this artificially induced scarcity of rewards: Its effects are probably quite opposite to its intended purpose, discouraging rather than encouraging the growth of educational merits.

Yes perhaps the artificial scarcity of good grades in the educational system can be justified as a preparation for the realities of adult life in the economic system. Occupational prestige, high earnings, and fulfilling jobs are in scarce supply in the world of work. In the contest for individual success, grades are to the student what occupational success and income are to the adult. The student's struggle for high grades should produce

unusually priming him or her for the battle for economic success. Although a student's success in obtaining good marks may indirectly contribute to his or her economic success by enabling him or her to get into a "college track," then into a good college, then into a good medical school, and so on, there is little evidence to support the proposition that college grades that students who get better grades have more economic success than those who obtain lower grades. The skills in making one's mark economically do not appear to be very similar to those involved in making one's mark educationally.

Perhaps one of the main functions of the artificial shortage of good grades is, as Bowles and Gintis (1976) suggested, to contribute to a belief in the competitive meritocratic ideology. This ideology legitimizes socioeconomic inequality by assuming that the allocation of scarce, high-socioeconomic-economic positions in society is based on individual merit as reflected in a fair competition, rather than on social advantage. The scarcity of high grades in the educational system presumably enables schools to engage in a meritocratic process of allocation that corresponds to and justifies the principle of allocation in the economic system. It also fosters patterns of personal development that accommodate the socioeconomic inequalities of the occupational world. Through the repeated and pervasive experience of competitive struggle for scarce goods in the classroom, students are socialized into believing that this is not only the just way but also the natural and inevitable way of allocating scarce values in the larger, impersonal, modern capitalist world. They also learn that there are winners and losers in such competitions and that, although it is possible for them to win, they are more likely to lose.

It is, as I suggested above, not surprising that the school system prepares its students to conform to and accept the ideology, beliefs, and practices of the broader society in which they live. It would be surprising were it not so. I have emphasized the function of the grading system as a central element in creating the correspondence between the educational and occupational systems. It would be a mistake, however, to assume that the entire system is anywhere close to perfect. There appears to be much more equality and reliance on merit in the educational system than in the economic system. It has been estimated that less than 25% of the workers in the United States are paid according to their individual productivity at work, a much smaller percentage, by the way, than in the Soviet Union. And as I indicated above, there is much less discrimination against women and blacks with regard to grades and educational attainment than there is with regard to income and occupational attainment. One would hope that the greater democracy and meritocracy of the schools places continuing pressure on the broader society for improvement in these respects.

So far in my discussion of the content, quantity, and quality of distributive systems, I have focused on the significance of high marks and on their scarcity. I now turn briefly to a consideration of the quality of grades. Most of us have been on the giving and receiving ends of the distribution of grades and are very much aware of their ambiguities and imperfections. Grades and grade point averages are summary evaluative symbols, but they communicate little clear information about what the student has been evaluated on or how they have been summarized into a letter or numerical grade. Nor do they commonly specify the frame of reference or standard that is employed in making the evaluative judgment. Moreover, different institutions, different departments, and different schools often vary in important aspects of the grading process. As Thorndike (1960) and Warren (1971) have suggested, it is evident that the specific information transmitted by grades, as they are usually employed, is often very unclear. The clearest fact in a mark is its evaluative component, and even that has considerable ambiguity when one is uncertain about the frame of reference or standard employed in the evaluation. Thus, I conclude my discussion of the first question with the statement that a high grade is a distributive good of uncertain quality and unspecific meaning, which nevertheless has considerable importance because of its evaluative significance and artificially induced scarcity.

To Whom Is It Being Distributed and by Whom?

Grades are almost always distributed by teachers to students, although in recent years, in some colleges, teachers have also been rated by their students. One could imagine other possibilities than the traditional one. For example, it is by no means self-evident that the object of grading should exclusively be the individual student. In the adult world, achievement is often the result of group and organizational pretenses and cannot be easily localized in individuals. Although our preconceptions lead us to localize educational achievement in individual students, educational achievement is very much influenced by the interaction process among students. The social norms that exist among peers, the group climate, and other group and organizational factors. Focusing on an individual as the sole unit to be graded neglects the social context in which students are connected and in which they contribute. This may lead both students and teachers to play little heed to developing the skills and motivations necessary to produce the social contexts that facilitate learning by diverse students.

Similarly, it is by no means self-evident that teachers are in the best position and have the best information for grading students. Thus, there is research that indicates that fellow classmates in Teacher Training School may be better than the teachers themselves at evaluating the students in a more successful way. Although fellow students often have more full and detailed knowledge of one another than does the teacher, the teacher usually has more expert judgment and experience. This suggests that grading should be more of a joint responsibility between teachers and students.

Such changes in grading procedures presuppose that teachers and students can develop cooperative relations based on the sense of cooperative interest. Cooperative relations are less likely when the teacher-student relation is seen as a superordinate-subordinate relation, or in other words, as being part of a system of hierarchical control in which the teacher has unilateral control over the student as a result of the teacher's superior status in the educational system. Superordinate-subordinate relations tend to breed conflicts over power. A grading system that is completely controlled by the teachers helps to enhance the teachers' power over the students and to buttress their superordinate position. By grading students individually, in

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competition with one another, teachers deflect conflict from themselves by encouraging conflict among the students. They inhibit collective action against them by stimulating the students to compete with one another and by fostering the illusion that teaching occurs primarily in the superior-inferior role pattern and not in relationships among pupils.

For purposes of contrast, consider the situation where a teacher is not in a superordinate position in relation to his or her students, for example, an instructor or a counselor. Such a teacher is in a relatively equal role with his or her students, and his or her students are in a relatively equal role with one another. In this situation, the students are likely to engage in conflict because of the perceived equality of the roles and the fact that the teacher is not in a superordinate position. The students may feel empowered to challenge the teacher and each other, leading to a more democratic and collaborative classroom environment.

In the above-mentioned study, teachers were asked to rate their students' intelligence and work habits. The teachers were then asked to rate their students' performance in the classroom. The results showed that teachers who rated their students' intelligence and work habits higher also rated their students' performance higher. This suggests that teachers' perceptions of their students' intelligence and work habits have a significant impact on their ratings of their students' performance.

In conclusion, teachers' perceptions of their students' intelligence and work habits can have a significant impact on their ratings of their students' performance. This is important for educators to be aware of, as it can influence teaching practices and student outcomes. To improve the quality of education, teachers may need to focus on creating a more democratic and collaborative classroom environment that empowers students to engage in conflict when needed.
cease into the economy, be it market, and would be expected increasingly to a competitive grading system (based on merit). If the adult world of work were oriented to communication-skillfulness as in Israeli kibbutzim, one would expect that a competitive grading system based on individual merit would play little or no role in the educational system; students would be equally valued as members of a community and would be regarded particularly rather than compared on unidimensional scales meant to weigh the student against another.

What Are the Effects of the Distribution?
Our scientific knowledge of the effects of different distributive systems is at a very early stage. We are just beginning to know something about the effects of competitive and cooperative distributive systems from research in the social psychology laboratory, in schools, and in industry. There are, of course, many varieties of each of these two types of distributive systems, and in each type, I consider a system in which rewards are affected by individual or group achievement. The fundamental character of a competitive system is that the amount of reward that one person obtains is the probability of receiving a reward, is negatively linked to the amount of reward that others obtain, or to their probability of being rewarded; in the extent I win, you lose. In a cooperative system, the amount or probability of reward is positively linked so that one's personal situation improves or worsens in the same degree that the others in the system, so the extent I win, you win, and to the extent I lose, you lose.

There have been recent reviews of the effects of different classroom reward structures by Johnson and Johnson (1975, 1979, 1980), Slavin, (1977), and Michalski (1977); there is a review by Lawler (1977) of the effects of different reward systems in industry; and I have recently reviewed the social psychological literature related to distributive systems (Note 1). From these various reviews, my general knowledge of the relevant social science literature, and my own past and current research in this area, I draw the following conclusions.

The Strength of Motivation
As reflected in effort expenditure and willingness to work, the strength of motivation is not induced more reliably or more intensely by one type of reward system as compared with the other. There seems to be considerable individual and cultural variability, as well as situational and task influence. Some individuals respond more favorably to one system than to the other. Children, especially, are more collectivist, as compared with an individualistic-cooperative, orientation tend to be more responsive to a cooperative reward system. Cooperatives are more oriented to cooperative more frequently against enemies than friends; the opposite is true for cooperation. Within the United States, one would expect more responsiveness to a competitive system, yet a considerable number of studies have shown no consistent differences between the two systems. The conclusion seems inescapable that neither system is intrinsically more motivating; however, task requirements, situational determinants, cultural values, and personality characteristics may predispose an individual to be differently responsive to cooperation and competition.

Individual Productivity
As it is affected by the two systems, individual productivity is very much influenced by the characteristics of the task. If the task is such that individual performance is facilitated by effective communication with others, by the resources or help others can provide, or by the specification of roles, then the cooperative reward system produces superior performance. If the task is such that effective communication and cooperation are distracting and interfering with task effectiveness, the cooperative reward system produces inferior performance if it leads to attempts to work collectively on the task. If individuals work in isolation on tasks that permit separate work, task performance is not consistently different under the two reward systems. Individuals or collectives in cooperative systems may be more likely to develop social skills related to team functioning and team building, skills in communication, coordination, trust building, conflict resolution, cooperative conflict resolution, and the like. Similarity, it seems possible that a competitive reward structure would more likely enhance the development of the assumption and power-utilization skills related to manipulating, extinguishing, or legitimizing one's adversaries. Researchers like Pinter and Michalski have described the development of such skills; I suspect, however, that the acquisition of sophisticated skills of cooperation or competition is not likely to result from mere exposure to or participation in such systems; systematic tuition may be necessary to produce skills that can be transferred to other contexts.

Individual Learning
Individual learning appears to be affected by the two reward systems in a manner comparable with the way in which individual task performance is affected. Essentially, there are no inherent advantages to a competitive reward system in any type of traditional learning task, but there are intrinsic advantages to a cooperative system in a variety of learning situations (Johnson & Johnson, 1979). However, each of the two reward systems probably leads to the acquisition of the particular types of skills that are instrumental to effective functioning in its system. Thus, David Johnson and his colleagues (Johnson & Johnson, 1979) demonstrated that social perspective taking, the ability to understand how a situation appears to another and how that person is reacting (cognitively and emotionally to that situation) is promoted more by cooperative than by competitive learning experiences. Although I know of no research bearing on other skills involved in cooperation, it seems plausible that a cooperative reward system would more likely promote skills related to team functioning and team building, skills in communication, coordination, trust building, conflict resolution, cooperative conflict resolution, and the like. Similarly, it seems possible that a competitive reward structure would more likely enhance the development of the assumption and power-utilization skills related to manipulating, extinguishing, or legitimizing one's adversaries. Researchers like Pinter and Michalski have described the development of such skills; I suggest, however, that the acquisition of sophisticated skills of cooperation or competition is not likely to result from mere exposure to or participation in such systems; systematic tuition may be necessary to produce skills that can be transferred to other contexts.

Attitudes Toward Work or Learning
Johnson and Johnson (1979), in reviewing recent research findings in primary and secondary schools, stated that "cooperative learning experiences, compared with competitive and individualistic ones, promote greater willingness to pretend one's answers and more positive feelings toward one's answers and the instructional experience, as well as more positive attitudes toward the instructional tasks and subject matter." They also reported several field studies that demonstrated that students experiencing cooperative instruction like the teacher better and perceive the teacher as being more supportive and accommodating, academically and personally, than do students experiencing competitive or individualistic instruction. My early studies of cooperative and competitive grading systems (Deutsch, 1949), which used students in introductory psychology sections at the Massachusetts Institute of Technology, found similar results.

The more negative attitudes resulting from the competitive process reflect the more hostile and critical atmosphere induced by competition, which tends students to downgrade others in order to promote themselves and to expect that others will attempt to downgrade them. The downgrading is expressed in such behaviors as insensitivity to others' criticism of others' ideas, obstructiveness, and lack of helpfulness. The more positive attitudes resulting from the cooperative process reflect the more friendly and supportive atmosphere induced by cooperation, which leads students to encourage and help one another and to respond attentively and accurately to each other. As could be expected, those differences were produced by differences in attitudes toward learning, they also affect the level of students' anxiety, their self-esteem, and their attitudes toward and relations with other students. All of these are more negative under the competitive as compared with the cooperative grading system (efficiency are more anxious, they think less well of themselves and of their work, they have less favorable attitudes toward their classmates and less friendly relations with them, and they feel less of a sense of responsibility toward them.

The more positive effects of the cooperative grading system on individuals are paralleled by more positive effects on groups: Group productivity.

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illy on tasks involving interdependence of the group members is higher: communication processes are more effective; there is less misunderstanding, less need for repetition, and fuller transmission of information; there is greater development of specialization among group members, with a consequent increase in diversity of individual activity; there is more effective coordination of the activities of group members; and stronger group norms develop regarding mutual helpfulness and the fulfillment of one's obligations to the group and to other group members.

I do not mean to suggest by this comparative review of cooperative and competitive grading systems that there are no problems associated with cooperative systems. There are a number of typical problems that often characterize such systems (Deutsch, 1953). These include the development of vested interests in one's specialized role in the cooperative system, the growth of in-group favoritism that may lead to discrimination against out-group members, and the evaluation of excessive conformity and reluctance to question the majority opinion. In addition, there are problems associated with dealing with members who are either uncooperative and uncooperative effectively and responsibly. Nevertheless, the research evidence strongly suggests that overall, the advantages of the cooperative grading system outweigh its disadvantages.

Nor do I mean to suggest by my review that competition produces no benefits. Competition is part of everyday life, and the acquisition of the skills necessary to compete effectively can be of considerable value. Moreover, competition in a cooperative, playful context can be fun. It enhances one's expertise and experience, in a non-intimidating setting, symbolic emotional dramas relating to victory and defeat, life and death, power and helplessness, dominance and submission; these dramas have deep personal and cultural roots. In addition, competition is a useful social mechanism for selecting those who are more able to perform the activities involved in the competition. Further, when no objective, criterion-referenced basis for measurement of performance exists, the relative performance of students provides a crude yardstick. Nevertheless, there are serious problems associated with competitive grading systems. These problems are, in my view, of sufficient magnitude to suggest that competitive grading, when employed, should be a component in a larger context of continuous, everyday emphasis on the cooperative aspects of learning. Students need to acquire the skills that enhance cooperation as well as those that enable them to compete, and they need to acquire the attitudes that encourage a sense of community rather than a feeling of alienation.

It is beyond the scope of this article to describe what would characterize an ideal grading system. However, let me point out a few of its essential features. First, an ideal system would foster the view among students that they have a positive interest in the educational attainments of one another. Second, instead of emphasizing competitive evaluation, such a system would provide individualized, participatory feedback aimed at helping individual students and groups of students to function effectively both as individuals and as groups in acquiring educational objectives. Third, when prerequisites of specific skills and knowledge were necessary for students to engage in a course of study, criterion-referenced rather than norm-referenced tests would be developed and employed to assess the specific skills and knowledge. Similarly, criterion-referenced tests rather than norm-referenced tests would be used when it was necessary to certify the level of a student's educational attainments in a given area.

If our schools were to foster a cooperative system of education where each student stood to gain rather than lose by the achievements of other students, would the competitive, meritocratic ideology that helps to legitimize socioeconomic inequality in our society be undermined? It would undoubtedly be weakened, and the threat of this might well be a source of resistance to any basic, widespread change in the nature of our grading systems. As educators and social scientists, we must confront this resistance rationally, by communicating the knowledge that we are accumulating about the consequences of different grading systems, teachers, parents, and others who are concerned about the effects of schooling on our children.

In addition, I believe we must begin to challenge the assumptions underlying the competitive, meritocratic ideology of our society. We must question whether socioeconomic position in our society is actually distributed on the basis of individual merit. In addition, we must raise issue with the notion that merit belongs solely to an individual, as though its possession were not strongly influenced by social and biological circumstances largely beyond the individual's control. And we must raise doubts about the traditional answer to the question, Who merits merit—namely, those who have merit as a consequence of having been more favored with the conditions that foster merit. Finally, we must raise the central question: If the competitive grading system in our schools—a less corrupt version of a competitive merit system than the one that characterizes our larger society—does not foster a social environment that is conducive to individual well-being and effective social cooperation, why would one expect that such values would be fostered in a society that is dominated by a competitive, meritocratic ideology? If the cooperative-hierarchical atmosphere is not good for our children, is it good for us?

**REFERENCE NOTE**


**REFERENCES**


