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Group Grade Grubbing versus Cooperative Learning

The perils of using rewards to bribe students to work together include decreased motivation and lower levels of performance.

Even before the recent surge of interest in cooperative learning (CL), researchers and practitioners were already staking out positions on precisely what the term denotes and how the idea should be implemented. Constructive controversies (or, less charitably, factional disputes) have arisen with respect to almost every aspect of CL theory and practice. Everyone in the field agrees that students benefit when they can help each other learn instead of having to work against each other or apart from each other; beyond this, unanimity is in short supply.

What should be one of the central areas of discussion, however, has not yet received the attention it deserves. I refer to the prominent role assigned to grades, awards, certificates, and other rewards in many of the CL models now being offered to teachers. While some approaches incorporate these rewards without calling attention to that fact, others assert that rewards are the linchpin of cooperation. Some writers even go so far as to use the phrases "cooperative goals" and "cooperative reward structures" interchangeably.

Most researchers would agree, I think, that effective CL depends on helping students to develop what the social psychologist Morton Deutsch (1949) called "promotive interdependence," in which the goals of group members are positively linked and their interactions are characterized by mutual facilitation. (Counterbalancing this in most versions of CL is some feature to assure individual account-

ability so that each student is held responsible to an external source for participating in the process and for learning.) But the assumption that interdependence is best achieved—or even, as some would have it, that it can *only* be achieved—by the use of rewards is a claim that demands critical examination. An impressive body of research in social psychology has shown that rewards are not only surprisingly limited in their effectiveness but also tend to undermine interest in the task. Over the long run, they may actually reduce the quality of many kinds of performance.

Hidden Costs of Rewards

In terms of motivational power, no artificial inducement can match the strength of intrinsic interest in a task. Think of someone whom you regard as extraordinarily good at what he or she does for a living; then ask yourself whether this individual is concerned primarily with collecting a paycheck. Most people who reach for excellence truly enjoy what they do. The same is true of students in the classroom.

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But the "hidden costs of rewards" (Lepper and Greene 1978) have to do not only with their relative lack of efficacy but with their corrosive effects on both attitude and performance. The psychologist Robert J. Sternberg (1990) recently summarized what a growing number of motivation researchers now concede: "Nothing tends to undermine creativity quite like extrinsic motivators do. They also undermine intrinsic motivation: when you give extrinsic rewards for certain kinds of behavior, you tend to reduce children's interest in performing those behaviors for their own sake" (p. 144). More succinctly, rewards have been described as the "enemies of exploration" (Condry 1977).

Despite the continuing influence of Skinnerian psychology on education and on lay thinking, this phenomenon is not entirely counterintuitive. The following three-step sequence of events will sound all too familiar to many of us: (1) we engage in some activity simply because it is pleasurable, (2) we get paid for doing it, and (3) we suddenly find ourselves unwilling to do it unless we are paid. We have come to see ourselves as working in order to receive the reward—in this case, money—with the result that our interest in the activity has mysteriously evaporated along the way.

This effect has been documented repeatedly, beginning in the early 1970s with the research of Mark Lepper at Stanford University (for an early summary, see Lepper and Greene 1975), Edward Deci at the University of Rochester (Deci and Ryan 1985),

and their respective students. Since then, other researchers replicating and clarifying the phenomenon include John Nicholls (1989), Judith M. Harackiewicz and associates (1984), Mark Morgan in Ireland (1983, 1984), and Ruth Butler in Israel (Butler and Nisan 1986; Butler 1987, 1988, 1989). Their experiments have shown, *inter alia*, that:

- preschoolers who are told they will receive an award for drawing with felt-tip markers subsequently show less interest in using them (Greene and Lepper 1974);

- college students competing to solve a puzzle are less likely to continue working on such puzzles than are those who had not competed (Deci et al. 1981);

- merely watching someone else get rewarded for doing a task is enough to reduce one's own motivation to do it (Morgan 1983);

- the expectation of being evaluated distracts one from the task at hand and interferes with involvement and interest in it (Harackiewicz et al. 1984);

- not only grades but even some kinds of praise (as opposed to purely informational feedback) can undermine interest in an activity (Ryan 1982, Butler 1987).

In addition to these studies, whose dependent variable is motivation, Teresa Amabile at Brandeis University and other researchers have shown that rewards often lead to lower performance, particularly at creative tasks. For example,

- Students promised a reward if they were effective at tutoring younger children took longer to communicate ideas, got frustrated more easily, and ended up with pupils who didn't understand as well as a group of children whose tutors were promised no reward (Garbarino 1975);

- Children and undergraduates who expected to receive a prize for making collages or telling stories proved to be less imaginative at both tasks than those who received nothing (Amabile et al. 1986);

- When creative writers were asked to spend a few minutes reflecting on extrinsic reasons for writing—making money, impressing teachers, and so forth—their poetry dropped in quality

and also was judged to be worse than the poems written by people who weren't thinking about these things (Amabile 1985);

- Teenagers offered a reward for remembering details about a newspaper story they had recently read had poorer recall than those who received nothing for their efforts; moreover, they also scored lower on two measures of creativity (Kruglanski et al. 1971).

All of these studies have direct implications for classroom learning, but other research has shown that the destructive effects of rewards extend to other spheres: They are counterproductive for promoting generosity and other prosocial behavior (see a review in Kohn 1990), for eliciting love toward one's romantic partner (Seligman et al. 1980), and for motivating employees to use seat belts (Geller et al. 1987). In short, the conclusion offered for one experiment seems an apt summary of an entire body of research: "The more salient the reward, the more undermining of performance [is] observed" (Condry 1977, p. 464).

Several explanations have been proposed to account for these remarkably consistent findings. First, people who think of themselves as working for a reward feel controlled by it, and this lack of self-determination interferes with creativity (Deci and Ryan 1985). Second, rewards encourage "ego involvement" to the exclusion of "task involvement," and the latter is more

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predictive of achievement (Nicholls 1989). Third, the promise of a reward is "tantamount to declaring that the activity is not worth doing for its own sake" (A. S. Neill, quoted in Morgan 1984); indeed, anything construed as a prerequisite to some other goal will likely be devalued as a result (Lepper et al. 1982).

Taking Away What's Been Given

All of these explanations account for reduced performance on the basis of how rewards reduce interest in the given task. But the decline of interest and the decline in performance are distinct phenomena, each significant in itself. The reduction in motivation also has undesirable effects on "self-esteem, perceived cognitive competence, and sense of control" (Ryan et al. 1985, p. 45); it is undesirable apart from its achievement effects. Conversely, extrinsic inducements may also reduce creativity for a reason having nothing to do with intrinsic motivation: they encourage students to work as quickly as possible, take few risks, and focus narrowly on a task. A reward-driven child (or adult) is after the goodie, and this mental set is hardly conducive to the playful encounter with words or numbers or ideas that characterizes true creativity (Amabile 1983).

It should not be surprising, then, that students for whom rewards are salient—even high-achieving students—will choose the easiest possible tasks (Harter 1978, Greene and Lepper 1974). Commenting on "Book It," a program sponsored by the Pizza Hut restaurant chain that dangles free pizza before children to induce them to read, John Nicholls says the likely long-term consequence is "a lot of fat kids who don't like to read" (personal communication, 1989). Children are likely to pick books that are short and simple, the aim being to plow through them fast rather than coming to appreciate the pleasures of reading. The same is true with respect to inedible extrinsics as well. Thus, if the question is *Do rewards motivate students?*, the answer is *Absolutely—they motivate students to get rewarded*. Unfortunately, such motivation is often at the

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expense of interest in, or excellence at, whatever it is they are doing.

All of this prompts several disconcerting questions for anyone committed to CL. If bribing individuals to learn is so demonstrably ineffective and disadvantageous, what makes us think that bribing groups to learn is productive and benign? Why, in other words, should CL be exempt from the principle that emerges from this research—namely, the less salient grades and other rewards are for students, the better? Might it not be naive, in light of the corrosive effect of extrinsics, to assume that we can simply remove the rewards “as soon as the intrinsic motivation inherent in cooperative learning groups becomes apparent” (Johnson et al. 1986, p. 63)?

Alternatively, we could frame the challenge this way: many of us were drawn to CL because of the manifest failure of competition as a pedagogical tool. One of the reasons for competition’s failure is precisely its status as an extrinsic motivator (Deci and Ryan 1985, Kohn 1986, Nicholls 1989). So could it not be said that the use of grades and other rewards to ensure cooperation takes away with one hand what has been given with the other?

To answer these questions definitively, we first need to consider the evidence offered in support of reward-driven CL by such careful researchers as Robert Slavin. His review of the data has persuaded him that “cooperative learning methods that use specific group rewards based on group members’ individual learning consistently increase achievement more than control methods” (1983, p. 53). I believe, however, that the force and relevance of this conclusion is sharply limited by several factors.

First, many, if not most, of the measures in the studies to which Slavin refers are tasks that require only the straightforward application of a known principle (that is, algorithmic or convergent tasks), and these are less vulnerable to the destructive effects of extrinsics than are more open-ended (heuristic or divergent) tasks. Teachers who care about stimulating creativity and curiosity will not take much comfort from the fact that the promise of a certificate may prompt students to



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memorize more facts. That striving for a reward may enhance performance on a boring task may be less important than the finding that rewards, from a students’ perspective, turn interesting tasks into boring ones.

Second, while Slavin’s notion of methodological adequacy turns in part on whether an experiment lasted for several weeks or several days, we also need to attend to the very long term. It is true that the toxicity of rewards typically manifests itself with alarming rapidity: in many of the studies cited above, a single trial—that is, one presentation of an extrinsic reward—was sufficient to undermine performance and interest. But how do children who are repeatedly bribed to learn come to view the process of learning months or years later? Specifically, how do they view a given subject when no one is around to reward them? A temporary performance gain on routine classroom assignments may mask a chronic shift in students’ attitude that will have long-term negative effects on learning. We already know that “children become increasingly more extrinsically oriented over the school years” (Harter, paraphrased in Barrett and Boggiano 1988; see also Ryan et al. 1985)—an occurrence that Slavin presumably finds as troubling as I. It appears likely that the widespread use of extrinsics (mostly by people who have never even heard of cooperative learning) has something to do with this. Continuing to use extrinsics at the level of the group would seem to be ill-advised.

Third, we need to ask what exactly is being contrasted with reward-driven CL in the studies that find a perfor-

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mance advantage. My impression is that the control condition typically consists of either (a) a “traditional” classroom, which, as I have just noted, is also characterized by reward-based motivation, or (b) some loose, unstructured arrangement (“Why don’t you four work together on this ditto sheet?”) that scarcely qualifies as CL. The first comparison tells us nothing about the effects of rewards *per se*—only about rewarding individuals versus groups. The second comparison does nothing to discredit the possibility of carefully structured, non-reward-based approaches to CL.

A Proposal for Success

When Slavin says, as he did in this journal (“Cooperative Learning and Student Achievement,” October 1988), that “the cooperating groups must have a group goal that is important to them,” I heartily agree. The problem is that he goes on in the very next sentence to operationalize the concept of group goals in terms of “working to earn certificates or other recognition, to receive a few minutes extra of recess, or to earn bonus points on their grades.”

Those of us who are both persuaded and disturbed by all the evidence indicating that such rewards are counterproductive will want to turn to (or create) models of CL that can claim all the familiar advantages—but without relying on extrinsics. I would propose three key components of successful CL: curriculum, autonomy, and relationship.

Curriculum obviously matters in many respects, but the point to be emphasized here is that the perceived need to bribe children often tells us more about what they are being asked to learn (namely, that it lacks any intrinsic appeal) than about how learning *per se* takes place. While some proponents have proudly described CL as a method that can be used to teach anything—which implies that teachers who adopt it need not ask difficult questions about the value of what they are requiring students to do—others have challenged the value of “using cooperative techniques to have students cover the same boring, inconsequential, or biased material or to have them ‘get through’ worksheets with

more efficiency" (Sapon-Shevin and Schniedewind 1989/1990, p. 64). I sympathize with the latter point of view.

Autonomy is vital for producing intrinsic motivation because people are more likely to find a task interesting when they have had a role in deciding what they are to do and how they are to do it (Nicholls 1989, Deci and Ryan 1985, Amabile and Gitomer 1984). Rewards are destructive, in the view of Deci and others, primarily because they restrict autonomy. But teachers should not only minimize extrinsic motivators, they should affirmatively help students to become responsible for their own education. A child who can make (teacher-guided) choices about what happens in his or her classroom is a child who will be less likely to require artificial inducements to learn.

Relationship refers to the specific trainable social skills that already play a part in some models of CL (for example, Johnson et al. 1986) as well as to a broader emphasis on caring for others. Explicit attention to the value (and intrinsic appeal) of prosocial behavior may encourage students to view others in their group as collaborators rather than as obstacles to their own success. By contrast, a certain cynicism inheres in the assumption that students will work together only on the basis of self-interest (Kohn 1990)—that is, that no classroom environment could possibly develop norms leading to cooperation without the use of rewards.

Several models of CL already emphasize these things. First, "if the task is challenging and interesting, and if students are sufficiently prepared for skills in group process, students will experience the process of groupwork itself as highly rewarding," as Cohen (1986, p. 69) has written. Similarly, the scores of lessons and activities offered in Schniedewind and Davidson's (1987) introduction to CL are based on the idea that *what* gets taught not only matters as much as *how* it is taught but actually can be the central impetus for learning. Second, autonomy is key to the Group Investigation approach: Achievement comes chiefly from giving "students more control over their learning" (Sharan and Sharan 1989/

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1990, p. 20), not from waving a gradebook at them.

Finally, relationship, and specifically the idea of creating a community within the classroom, is the primary feature of the program developed by the Child Development Project in San Ramon, California. For that matter, the project also places special emphasis on the quality of the curriculum and on helping students to take responsibility for their learning—all of which have moved the project developers away from relying on punishments or rewards (Solomon et al. 1990).

In sum, my hypothesis is that a carefully structured cooperative environment that offers challenging learning tasks, that allows students to make key decisions about how they perform those tasks, and that emphasizes the value (and skills) of helping each other to learn constitutes an alternative to extrinsic motivators, an alternative both more effective over the long haul and more consistent with the ideals of educators.

But even if we lack certainty about how to make CL work—even if subsequent research modifies this preliminary three-part formulation—it is time to abandon the project of trying to fine-tune a system of grades and other extrinsic motivators and instead to set about trying to maximize the benefits of CL in the absence of rewards.□

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