

Sticking Up for Rewards

(response to an article by Artie Kohn)

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Artie Kohn, in responding to a Nov 1992, article has suggested that rewards in education are counterproductive and have no long-term effects. However, there are many types of rewards. For example, informational rewards, can provide not only feedback but also additional incentives.

It is difficult to know how to respond to Alfie Kohn's critique. It is so disjointed and so full of misrepresentations of fact and theory that it is like a greased pig: one can scarcely get a grip on it, let alone wrestle it to the ground. I will illustrate what I mean with a few examples and then reply to what I believe to be Kohn's major objections.

Item: To reward, Kohn says, is to say to a student, "Do this and you'll get that." But this is only one kind of reward - and one that I specifically advised readers to avoid when possible. It is these "contractual rewards" (or incentives) that are apt to be problematic.[1] My article focused on rewards that provide feedback about performance. Such "informational rewards" reflect effort or the quality of performance (e.g., "Good try, Janet"; "Great job, Billy"). As we shall see, even researchers who criticize contractual rewards do not normally object to informational rewards.

Item: Kohn says that I ask, Why would a child be motivated to learn that $7 + 3 = 10$? But my question was, How can a child learn that $7 + 3 = 10$ without some sort of response from the environment? A teacher, a peer tutor, or a computer program may provide the necessary feedback, but the natural environment rarely does. This was the point of E. L. Thorndike's line experiment, described in my article.

Item: Kohn suggests that the use of rewards is manipulative and controlling. It is ironic that honest feedback or a straightforward contingency between work and rewards should be called manipulative, while "persuasion" and "mutual problem solving" should not. Students, I suspect, know the truth of the matter. As for control: a parent rewards a baby's crying when he or she offers a bottle, and the baby rewards the parent's action by ceasing to cry. Each controls the other. Students and teachers exert the same sort of reciprocal control in the classroom.[2]

Item: Nowhere do I suggest that students must "fill in an endless series of blanks on worksheets or memorize meaningless, disconnected facts," nor is there any reason to assume that the use of rewards implies such practices. The truth is that rewards are useful whether the student is memorizing dates, mastering algebra word problems, or learning to think.[3] Some sort of extrinsic reinforcement (informational reward) is usually necessary, in the early stages at least, for learning to occur efficiently.

Item: Kohn refers to "practices too often taken for granted." Evidently he believes the mythology that rewards are widely used in our schools. Yet I noted in my article that John Goodlad found that only 2% of class time is devoted to reinforcement in elementary school - and only 1% in high school.[4] Other research consistently shows that reinforcement is notable by its absence. Harold Stevenson, for example, compared elementary classrooms in America and Asia. He found pronounced differences in the activities of teachers when students were engaged in seatwork. In half of the classes observed in the Chicago area, the teachers provided no feedback about student

performance; this seldom happened in Taiwan and almost never happened in Japan.[5]

Item: I do not assume, as suggested, that "humans, like all organisms, are basically inert beings." Nor do I know any psychologist who would embrace this view. Behavioral psychologists in particular emphasize that we learn by acting on our environment. As B. F. Skinner put it: "[People] act on the world, and change it, and are changed in turn by the consequences of their actions." [6] Skinner, unlike Kohn, understood that people learn best in a responsive environment. Teachers who praise or otherwise reward student performance provide such an environment.

Item: Kohn implies that I consider grades a reward. In fact, I noted (as Skinner and others had before me) that grades are more often a form of punishment. Incidentally, F. S. Kener, a behaviorist, proposed a system of education that could eliminate grades. In the Keller plan, students are required to demonstrate mastery of each skill before moving to the next. Mastery of each unit in the curriculum is recorded, so grades become superfluous.[7]

Item: Kohn says that "moral issues are involved." The implication is that I and other teachers who use rewards are immoral. If it is immoral to let students know they have answered questions correctly, to pat a student on the back for a good effort, to show joy at a student's understanding of a concept, or to recognize the achievement of a goal by providing a gold star or a certificate - if this is immoral, then count me a sinner.

The above points illustrate, I think, the slippery nature of Kohn's critique and may lead the reader to question his scholarship and his motives for writing. I now turn to what seem to be his major criticisms of rewards.

Kohn insists that rewards undermine interest in rewarded activities.[8] Notice that Kohn does not argue that some rewards - or some uses of rewards - undermine interest. There is, in his view, no such thing as a good reward. Simple feedback, praise, smiles, hugs, pats on the back, gold stars, applause, certificates of completion, public and private commendations, prizes, special privileges, money, informational rewards, and contractual rewards - they are all one to Kohn, and they are all bad.

The best-known researchers who have found rewards sometimes troublesome are Edward Deci, Richard Ryan, Mark Lepper, and David Greene. Kohn cites all four in making his case. What he does not tell us (though he must surely know it) is that all of these researchers reject his view.[9]

Deci and Ryan believe that rewards can undermine motivation if used in a controlling way. But they add, "When used to convey to people a sense of appreciation for work well done, [rewards] will tend to be experienced informationally and will maintain or enhance intrinsic motivation" (emphasis added).[10]

Lepper and Greene take a similar stand. They note, "If rewards provide [a student] with new information about his ability at a particular task, this may bolster his feelings of competence and his desire to engage in that task for its own sake" (emphasis added).[11] They add, "If a child does not possess the basic skills to discover the intrinsic satisfaction of complex activities such as reading, the use of extrinsic rewards may be required to equip him with these skills." [12]

The position taken by Deci, Ryan, Lepper, and Greene reflects the consensus among researchers who are concerned about the possible negative effects of rewards. Mark Morgan, for example,

reviewed the research and wrote that "the central finding emerging from the present review is that rewards can have either undermining or enhancing effects depending on circumstances." [13] He concludes that "the evidence seems to support strongly the hypothesis that rewards that emphasize success or competence on a task enhance intrinsic motivation." [14]

Kohn claims that rewards do not work. It is true that not all rewards are reinforcing. Teachers must not assume that a reward will strengthen behavior merely because that is the teacher's intention. What is reinforcing for one student may not be for another. But there is overwhelming evidence that certain rewards (e.g., attention, positive feedback, praise) are almost always effective reinforcers when used properly.

In a study by Bill Hopkins and R. J. Conard, cited in my article, teachers who provided frequent feedback, praise, and other rewards saw much faster learning. [15] Students in these classes advanced at the normal rate in spelling, at nearly twice the normal rate in mathematics, and at more than double the usual rate in reading. [16] Studies showing similar gains, due at least partly to frequent use of rewards (especially feedback and praise), are easily found by those who seek them. [17]

Even contractual rewards may be useful in some circumstances. In one program, high-risk, low-income adolescents and young adults in Lafayette Parish, Louisiana, were paid \$3.40 an hour to participate in a summer program of academic instruction and job training. Students gained an average of 1.2 grade levels in reading and 1.5 grade levels in math in just eight weeks. [18]

It may be the case that the Lafayette Parish students stopped reading when money was no longer available. It probably cannot be said, however, that they read less than they did before participating in the program. If students show little or no interest in an activity, it is silly to refuse to provide rewards for fear of undermining their interest in the activity - a point made by Greene and Lepper. [19]

Kohn ignores such evidence and instead cites studies on the use of contractual rewards in weight control, smoking, and seat belt programs. [20] I am (understandably, I think) reluctant to take Kohn's assessment of these programs at face value. [21] But let us assume for the sake of argument that he is right. Note that none of these programs has anything to do with the value of rewards in classroom learning. Kohn's logic is, "If rewards do not help people stop smoking, they cannot help students learn to write." By the same logic, we would have to conclude that since aspirin is of no use in treating cancer, it must not be effective in treating headache. It is a bizarre logic.

The benefits of rewards, says Kohn, are only temporary. Obviously this is not true if we are speaking of academic learning: the child who learns the Pythagorean theorem at the hands of a teacher who provides frequent feedback and praise does not suddenly forget Pythagoras because his next teacher no longer pays attention to his efforts. Nor is there any reason to think that students who are paid to read become illiterate when the money runs out.

But perhaps Kohn has other kinds of learning in mind. Teachers who praise and attend to students when they are on-task will find those students spending less time staring out the window or doodling in their notebooks. [22] If the teacher abruptly stops rewarding on-task behavior, the rate of window staring and doodling will return to its previous level. [23] To conclude from this that teachers should not reward behavior is ridiculous. It is like saying that regular exercise is pointless because your muscles get flabby again when you stop exercising. The point is not to

stop.

It should be noted, moreover, that one of the things we can strengthen with rewards is persistence. Once our students are on-task for short periods, we can then begin rewarding longer periods of on-task behavior. We must be careful not to raise the standard too quickly, but we can gradually require more from our students. Persistence at other kinds of activities can also be built up by systematically providing rewards (especially praise) for meeting successively higher standards. Many teachers do this over the course of a school year, often without realizing it.

When behavior is rewarded intermittently in this way, it tends to become stronger. That is, it becomes less likely to fall off when rewards are no longer available. This is a well-established phenomenon called the partial reinforcement effect (PRE). The PRE reflects the fact that, in an uncertain world, persistence often pays off.

One final comment: I realize that this reply to Kohn's remarks will have little impact on most readers. Kohn is selling what educators want to buy - and what many of them have been buying for several decades. It is the philosophy of education that says that students must teach themselves, that the teacher's job is to let students explore and discover on their own, and that teachers can, at most, "facilitate learning." [24]

This philosophy renders the teacher essentially impotent and leads ultimately to the conclusion that, when students fail, it is their own fault. [25] If Students do not learn, it is because of some deficiency in them: lack of ability, lack of motivation, hyperactivity, attention deficit disorder - we have lots of choices. The failure is never due to inadequate teaching. Learning depends, after all, on things inside the student, well out of the teacher's reach.

I reject this view. I believe that a fair reading of the research on classroom learning points to a better way. That better way includes a teacher who is actively engaged in the educational process. Such a teacher recognizes the importance of, among other things, providing students with opportunities to perform and providing consequences for that performance. Those consequences include feedback, praise, smiles, and other forms of informational reward. In certain circumstances, they may include contractual rewards. This view of education places responsibility for learning squarely on the teacher's shoulders. Perhaps that is why there is so much opposition to it.

1. B. F. Skinner was not fond of contractual rewards himself, but he agreed that they may sometimes be necessary. See B. F. Skinner, "The Contrived Reinforcer," *The Behavior Analyst*, Spring 1982, pp. 3-8.
2. In an Industry Week survey, about one in three employees complained about a lack of praise for their work, a fact reported in Randall Poe and Carol L. Courter, "Fast Forward," *Across the Board*, September 1991, p. 5. Would workers want more praise if they considered it manipulative and controlling?
3. For instance, students can learn to find logical errors in a text by reading texts containing such errors and receiving feedback and praise for their efforts. See Kent R. Johnson and T. V. Joe Layng, "Breaking the Structuralist Barrier: Literacy and Numeracy with Fluency," *American Psychologist*, vol. 47, 1992, pp. 1475-90. For more on the use of rewards to teach thinking, see Paul Chance, *Thinking in the Classroom*

(New York: Teachers College Press, 1986), Ch. 9.

4. John I. Goodlad, *A Place Called School: Prospects for the Future* (New York: McGraw-Hill, 1984), p. 112. Goodlad argues that teachers should be taught the skills of "providing students with knowledge of their performance, and giving praise for good work" (p. 127). For the most part they are not taught these skills. Ernest Vargas notes that, "with the exception of a stray course here or there," the 1,200 colleges of education in this country offer little instruction in reinforcement and related techniques. See Ernest A. Vargas, "Teachers in the Classroom: Behaviorological Science and an Effective Instructional Technology," *Youth Policy*, July/August 1988, p. 35.
5. Harold W. Stevenson, "Learning from Asian Schools," *Scientific American*, December 1992, pp. 70-76. Stevenson suggests that the American preference for seatwork and the failure to provide feedback may be due partly to the fact that Americans teach longer hours than their Asian counterparts.
6. Quoted in James G. Holland, "B. F. Skinner (1904-1990)," *American Psychologist*, vol. 47, 1992, p. 667.
7. F. S. Keller, "Goodbye, Teacher . . . ," *Journal of Applied Behavior Analysis*, Spring 1968, pp. 79-89. See also Paul Chance, "The Revolutionary Gentleman," *Psychology Today*, September 1984, pp. 42-48.
8. Studies reporting a loss of interest following rewards typically involve 1) contractual rewards and 2) behavior that is already occurring at a high rate. This is, of course, a misuse of contractual rewards, since the purpose of such rewards is to boost the rate of behavior that occurs in infrequently.
9. In my article, I provided guidelines for the effective use of rewards. These guidelines were drawn, in part, from the recommendations of Deci, Ryan, Lepper, and Greene.
10. Edward L. Deci and Richard M. Ryan, *Intrinsic Motivation and Self-Determination Human Behavior* (New York: Plenum, 1985), p. 300.
11. David Greene and Mark R. Lepper, "Intrinsic Motivation: How to Turn Play into Work," *Psychology Today*, September 1974, p. 54. Elsewhere they write that the effects of rewards depend upon the manner and context in which they are delivered." See Mark R. Lepper and David Greene, "Divergent Approaches," in idem, eds., *The Hidden Costs of Reward* (New York: Erlbaum, 1978), p. 208.
12. Greene and Lepper, p. 54.
13. Mark Morgan, "Reward-Induced Decrements and Increments in Intrinsic Motivation," *Review of Educational Research*, Spring 1984, p. 13.
14. *Ibid.*, p. 9. Another of Kohn's sources, Teresa Amabile, also specifically defends the use of informational rewards. See Teresa Amabile, "Cashing in on Good Grades," *Psychology Today*, October 1989, p. 80. See also idem, *The Social Psychology of Creativity* (New York: Springer-Verlag, 1983).

15. Bill L. Hopkins and R. J. Conard, "Putting It All Together: Superschool," in Norris G. Haring and Richard L. Schiefelbusch, eds., *Teaching Special Children* (New York: McGraw-Hill, 1975), pp. 342-85.
16. The students also enjoyed school more and were better behaved.
17. See, for example, Charles R. Greenwood et al., "Out of the Laboratory and into the Community," *American Psychologist*, vol. 47, 1992, pp. 1464-74; R. Douglas Greer, "L'Enfant Terrible Meets the Educational Crisis," *Journal of Applied Behavior Analysis*, Spring 1992, pp. 65-69; and Johnson and Layng, *op. cit.*
18. Steven Hotard and Marion J. Cortez, "Evaluation of Lafayette Parish Job Training Summer Remedial Program: Report Presented to the Lafayette Parish School Board and Lafayette Parish Job Training Department of Lafayette Parish Government," August 1987. Note that this research may not represent the best use of contractual rewards, since payment was only loosely contingent on performance.
19. "Clearly," they write, "if a child begins with no intrinsic interest in an activity, there will be no intrinsic motivation to lose." See Greene and Lepper, p. 54.
20. Note that Kohn cites no evidence that his own preferred techniques - persuasion and mutual problem solving - are effective in helping people lose weight, quit smoking, or use seat belts. Indeed, reward programs have been used to treat these problems precisely because persuasion and education have proved ineffective.
21. For instance, in the study on smoking that Kohn cites, the researchers note that "the incentive was not linked directly to smoking cessation." See Susan J. Curry et al., "Evaluation of Intrinsic and Extrinsic Motivation Interventions with a Self-Help Smoking Cessation Program," *Journal of Consulting and Clinical Psychology*, vol. 59, 1991, p. 309. The researchers rewarded participants for completing progress reports, not for refraining from smoking.
22. Teacher attention can be an effective reward for on-task behavior. See R. Vance Hall, Diane Lund, and Deloris Jackson, "Effects of Teacher Attention on Study Behavior," *Journal of Applied Behavior Analysis*, Spring 1968, pp. 1-12.
23. Some might argue that we should merely provide students with more interesting (i.e., intrinsically rewarding) material. While interesting learning materials are certainly desirable, it is probably unrealistic to expect that students will always have interesting material with which to work. It may therefore be desirable for them to learn to concentrate on work even when it is not particularly agreeable.
24. The roots of today's constructivist "revolution" are described in Lawrence A. Cremin, "The Free School Movement," *Today's Education*, September/October 1974, pp. 71-74; and in B. F. Skinner, "The Free and Happy Student," *New York University Education Quarterly*, Winter 1973, pp. 2-6.
25. This is apparently the prevailing view. Galen Alessi has found that school psychologists,

for instance, rarely consider poor instruction the source of a student's difficulties. Instead, the student and, in a few cases, the student's parents are said to be at fault. Galen Alessi, "Diagnosis Diagnosed: A Systematic Reaction," *Professional School Psychology*, vol. 3, 1988, pp. 145-51.

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