

Immediate Reward Hikes Student Performance

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By Rick Nauert PhD ~ 2 min read

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With improved classroom performance an urgent goal in the U.S., a newly deployed intervention uses psychological theory introduced 50 years ago to show that a positive stimulus/response encounter can change human behavior.

In the current study, researchers from the University of Chicago proved that test performance can improve dramatically if students are offered rewards just before they are given standardized tests and if they receive the incentive immediately afterward.



Use of financial incentives or other rewards has long been an ongoing debate in the educational community. The hesitancy to use such enticements may change as researchers discovered that with the right kind of rewards, students achievement improved by as much as six months beyond what would be expected.

The rewards apparently provide students with an incentive to take tests more seriously. One implication is that policymakers may underestimate students' ability in otherwise low-performing schools.

During the study, investigators used financial rewards to boost performance for older students and non-financial rewards, such as trophies, to improve performance among younger students.

Interestingly, the prospect of losing a reward created a stronger desire to perform than the possibility of receiving a reward after a test. That is, students who were given money or a trophy to look at while they tested performed better.

A critical factor is to avoid delays in providing the reinforcement. "Most importantly, all motivating power of the incentives vanishes when rewards are handed out with a delay," said lead author Sally Sadoff, Ph.D.

Sadoff was part a team that conducted a series of experiments involving 7,000 students in the Chicago Public Schools as well as in elementary and high school districts in south-suburban Chicago Heights.

The team studied the impact of incentives on students taking relatively short, standardized diagnostic tests given three times a year to determine their grasp of mathematics and English skills.

Unlike other tests on incentives, the students were not told ahead of time of the rewards so they could not study but rather demonstrated the impact of the rewards themselves on performance.

The research has been published by the *National Bureau of Economic Research*.

Researchers discovered elementary school students responded better to nonfinancial rewards (trophies) than high school students.

However, money incentives and the amount of cash were important to improve performance among high schoolers. Students performed better if offered \$20 rather than \$10.

“At Bloom Township High School, when we offered students \$20 incentives, we found that their scores were 0.12 to .20 standard deviation points (five to sixth months in improved performance) above what we would otherwise have predicted given their previous test scores,” Sadoff said.

Researchers say the results of the experiments challenge a conventional theory that giving students tangible rewards “crowds out” intrinsic motivation, rendering such approaches ineffective in the short run and potentially detrimental in the long run.

Experts say the results reflect a situation in which the students tested had low initial motivation to do well, and thus benefited from the rewards. Moreover, follow-up tests showed no negative impact on removing the rewards in successive tests.

Rewards may be an answer to improve school performance. Often in life, most rewards are delayed, such as the prospect of making a better salary as an adult as the result of better school performance.

In the study, receipt of immediate rewards made a difference in performance. Investigators believe this immediacy may be necessary to motivate many kids and teens that have difficulty conceptualizing long-term rewards.

“The effect of timing of payoffs provides insights into the crux of the education problem that we face with our urban youth,” the authors write.

“Effort is far removed from the payout of rewards, making it difficult for students to connect them in a useful way. The failure to recognize this connection potentially leads to dramatic under-investment,” as students fail to apply themselves and policymakers don’t realize the students’ full potential.

Source: University of Chicago