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Incentive-Based Reforms

At A Glance

A growing number of schools and districts across the country are using incentive-based reforms in an effort to improve their students' performance. The rewards usually associated with learning, such as gaining understanding, developing mastery, and satisfying curiosity, do not appear to be sufficiently motivating to a large number of students. In addition, the long-term benefits of education, such as getting accepted to college or finding a good job, are intangible to many students. This Information Capsule discusses the arguments for and against student rewards, reviews some of the larger incentive-based reforms operating in the U.S., and summarizes the research that has been conducted to date on incentive programs. Finally, research-based recommendations for implementing incentive-based reforms are provided. Although local, state, and national economic difficulties may preclude the implementation of incentive-based reforms at this point in time, they may hold more promise in the

People often talk about the power of rewards to increase a desired behavior. Historically, educators have generally used what are known as “secondary rewards.” This form of social reinforcement includes special recognitions such as student of the month or privileges including extra free time. Policymakers have increasingly recommended an organized use of “primary reinforcement,” one form of which can be to financially compensate students in some way for their academic performance. This form of reinforcement is being used to complement other educational reform efforts, such as smaller classrooms, technology in the classroom, and data-driven decision making.

Financial incentives have been used for years in the business world and throughout society to encourage higher levels of performance. Educators are now asking if they can be used effectively in school settings (Bettinger, 2008; Christian Science Monitor, 2008; Miller, 2008; Raymond, 2008; Steinbach, 2008; Toppo, 2008; Angrist & Lavy, 2007).

Advantages of Incentive-Based Reforms

The use of incentive-based reforms has triggered a heated debate over how appropriate and effective it is to provide children with money or prizes for improved performance. The arguments in favor of rewarding students include:

- Schools have successfully rewarded students for decades. Ash (2008a) claimed that paying students for performance isn't new; it's the idea of doing it in an organized way that has created a controversy. For example, students who earn perfect SAT scores rarely, if ever, pay for their own college education. Many elementary school teachers provide incentives such as candy, parties, and special privileges to well-behaved or high-performing students (Bettinger, 2008; Willingham, 2007; Mills, 2003; Flora & Flora, 1999; Slavin, 1997; Seoane & Smink, 1991).

- The curriculum in U.S. schools prepares students to get a good job, which is almost always defined as a job that pays well. Adults get paid for their work, so students should be paid too (Steinbach, 2008; Sexton, 2007).
- Incentives reinforce the importance of learning and demonstrate to students that their efforts are taken seriously (Zuckerbrod, 2008).
- There is no cost to taxpayers when districts and schools use donations from corporations or community members to finance incentive-based reforms (Medina, 2008; Miller, 2008).
- Paying students to do an unpleasant chore, such as taking a test, is not the same as paying them to learn (Bennett, 2008).
- The rewards usually associated with learning, such as gaining understanding, developing mastery, and satisfying curiosity, do not appear to be sufficiently motivating to a large number of students (Schwartz, 2007; Chance, 1992). In addition, the long-term benefits of education, such as getting accepted to college or finding a good job, are intangible to many students (Bettinger, 2008; Angrist & Lavy, 2007; Berkeley, 2003).
- Rewards keep students engaged in the learning process. In their early years, most children are enthusiastic about learning. As children become adolescents, however, their motivation to learn decreases (Hermitt, 2007). Lepper, Corpus, and Iyengar (2005) found that students' academic motivation and enjoyment of the learning process decreased steadily as they progressed from grade 3 to grade 8. Many educators have complained that older students have little motivation for performing well on state-mandated tests (Keller, 2000).
- Many teachers are stationed in classrooms with students who are reluctant to learn. Teachers should be provided with additional strategies for engaging these students (Jalongo, 2007).
- Incentives may serve as the primary motivator at first, but students eventually form good study habits and become interested in learning, even after rewards are discontinued (Zuckerbrod, 2008).
- Many students receive money from their parents for good grades. Incentive programs provide rewards to students whose parents cannot afford them (Ash, 2008a; Miller, 2008).
- Incentives reduce the peer pressure students often face not to study or get good grades (Angrist & Lavy, 2007; Berkely, 2003). Medina (2008) reported that students in New York City said receiving money for doing well on tests made getting good grades more socially acceptable.
- Cash incentives help students decide between studying and working to earn money. Rewards help students with jobs as they take time off work to attend study sessions on weekends or after school (Baltimore City Public School System, 2008; Medina, 2007a).
- Incentives increase community and business leaders' commitment to education when they help to fund reward programs (Schubert Center for Child Studies, 2007).
- Compared to some other educational reforms, successful incentive programs are relatively inexpensive. Although a few incentive programs pay students thousands of dollars for passing tests, most offer rewards ranging from \$100 to \$500 per student each year. Some schools keep costs even lower by offering rewards such as coupons for local stores and restaurants, exemption from final exams, or permission to wear jeans instead of a uniform to school. Roland Fryer (quoted in Zuckerbrod, 2008), Harvard economist and creator of the Opportunity NYC student incentive program, pointed out that \$100 to \$500 represents a small percentage of schools' annual student expenditures.
- Many states spend substantial amounts of money on remedial courses for unprepared college students. Incentive programs that lead to increases in student achievement may reduce the demand for remedial college courses, resulting in cost savings for state and local governments (Jackson, 2007).

Disadvantages of Incentive-Based Reforms

Many people strongly oppose the idea of paying students to learn (Sexton, 2007). An informal poll conducted by Education Week (Ash, 2008b) found that 81 percent of respondents answered “no” to the question: “Should schools offer cash rewards to students as an incentive for improved academic performance?” Critics of incentive programs advance the following arguments:

- Paying students sends the message that the only reason to learn and study is for financial gain (Bennett, 2008; Miller, 2008; Steinbach, 2008; Davis, 2007; Medina, 2007b; Payne, 2007).
- Incentive programs distract educators from studying the more important question of why students are not motivated to learn (Schwartz, 2007).
- Performance and interest are maintained only as long as rewards are provided. Once incentives are discontinued, students stop performing the task (Willingham, 2007; Cameron et al., 2001).
- The withdrawal of rewards acts like a punishment. Researchers agree that punishment is not an effective way to motivate students (Briggs, 2007; Henry & Opfer, 2003; Kohn, 1993).
- Rewards don't promote higher levels of learning because students will do only what is required to receive the reward (Kohn, 1993).
- Incentives may demoralize those who are ineligible or unable to attain them (Berkeley, 2003).
- It is difficult to accurately measure students' levels of achievement when they have been offered rewards for their performance. Payne (2007) suggested that students might cram for a test or even cheat just to get the reward.
- Reward money could be better spent on other efforts to improve education, such as new instructional programs and better materials and supplies (Hechinger & Warren, 2008; Payne, 2007).

- Perhaps most importantly, many researchers have claimed that performance incentives may be effective in getting students to perform an activity, but performance and interest are maintained only as long as students continue to receive the rewards. Once rewards are withdrawn, students may actually enjoy the activity less, perform at a lower level, and spend less time on the task (Ash, 2008c; Schwartz, 2007; Viadero, 2007; Willingham, 2007; Pierce et al., 2003; Deci et al., 1999; Kohn, 1993).

Other studies, however, have found that rewards can be used effectively to enhance interest and performance (Willingham, 2007; Cameron et al., 2001; Eisenberger & Cameron, 1998). Cameron, Banko, and Pierce (2001) reported that incentives do not inevitably produce negative effects; they tend to lead to lower levels of motivation only under certain conditions. For example, studies have suggested that rewards only decrease motivation for tasks students initially enjoy performing. If students initially dislike the task or perceive it as boring, rewards have been shown to actually increase their motivation (Bettinger, 2008; Willingham, 2007; Cameron et al., 2001).

Review of Incentive-Based Reforms in the United States

Student performance can be rewarded in a variety of ways, including cash, coupons for local businesses, iPods, extra field trips, and summer jobs (Raymond, 2008; Kaufman, 2004). During the 2007-08 school year, schools in at least a dozen states implemented incentive-based reforms. Incentives varied widely from school to school or district to district, based on local priorities (Toppo, 2008). Rewards have been offered to students for improved academic performance; participation in and performance on advanced placement exams; increased attendance; and participation in after-school study programs. Some of the larger reform efforts being tried in schools and districts across the country are reviewed below.

- **Coshocton, Ohio.** The Simpson Family Foundation offered a gift of \$100,000 to the Coshocton City Schools to establish a student incentive program at its elementary schools. Coshocton is a 2,000 student district located about 75 miles from Columbus, Ohio. Over half of the district's students qualify for free or

reduced price lunch and almost one-fourth are classified as needing special education. The incentive program is designed to improve achievement in five core subjects: reading, writing, math, science, and social studies. Students in grades 3-6 at Coshocton's four elementary schools are eligible to participate in the program. The district randomly selects eight of the 16 grade-school combinations each year. Students receive \$15 per test when they score at the proficient level (75th percentile), for a total of up to \$75. Students scoring at the accelerated or advanced level (85th percentile or higher) receive \$20 per test, for a total of up to \$100. Students receive their awards in the form of "Coshocton Bucks," coupons printed by the Coshocton County Chamber of Commerce that can be redeemed at local stores (Bettinger, 2008; Schubert Center for Child Studies, 2007; Viadero, 2007). Findings from a study that analyzed the programs' effect on students' academic achievement are reviewed later in this report.

- **Baltimore.** The High School Assessment (HSA) Recovery Program awards cash to tenth and eleventh grade students who failed at least one of their state graduation exams. Beginning with the class of 2009, the state of Maryland will require students to earn passing scores on the HSAs in Algebra/Data Analysis, Biology, English, and Government in order to graduate from high school. The HSA Recovery Program targets almost 6,000 students in 39 high schools with poverty rates of at least 40 percent. Each student can earn up to \$110 per failed HSA for a total of \$440, depending on the amount of academic growth they demonstrate on benchmark assessments administered during the school year. The program also provides funding for Saturday and after-school instructional support, tutoring, materials and supplies, and technical assistance. Funding for the program is provided by the state of Maryland as part of a broader initiative designed to increase state graduation test scores (Ash, 2008c; Baltimore City Public School System, 2008). Since the HSA Recovery Program began in the spring of 2008, its impact on students' graduation test scores has not yet been evaluated.
- **Philadelphia.** Over 20 years ago, a

Philadelphia philanthropist offered to pay for the college education of an entire class of sixth graders if they finished high school. The offer was made to students attending Belmont Elementary School in West Philadelphia, a Black and economically disadvantaged neighborhood, where two-thirds of the students' families received welfare. Follow-up of the students 20 years later found that only 20 of the 112 students (less than 18 percent) completed college and received a bachelor's degree (Tonn, 2007; Mezzacappa, 1987).

- **Wisconsin.** The Wisconsin Covenant was created by the state of Wisconsin to offer students financial aid and guaranteed placement in a Wisconsin college. By the fall of their freshman year, high school students can sign the Covenant Pledge and commit to reaching three goals: completing the classes they need to graduate and prepare for higher education; maintaining a "B" average; and being a good citizen. In return for keeping their pledge, students earn a spot in either the University of Wisconsin System, the Wisconsin Technical College System, or one of the state's 20 private colleges. Financial assistance to meet families' needs is also provided. Private donations help to fund the program and the state is on pace to triple the amount of financial aid available since 2002. In 2007, over 17,000 eighth graders signed the Covenant Pledge (Wisconsin Covenant, 2008).
- **New York City.** Opportunity NYC pays students in fourth and seventh grades for high scores on English and math exams. The student incentive program is part of a broader, citywide anti-poverty initiative that rewards families for meeting specific targets in children's education, family preventive healthcare practices, and parents' workforce efforts. Schools volunteer to participate in the program. Approximately 9,000 students attending 60 schools in low-income neighborhoods participated in the program during the 2007-08 school year. Under the plan, fourth grade students receive up to \$25 for a perfect score on each of 10 standardized tests administered throughout the year and \$5 just for taking the test. Seventh grade students receive \$50 for a perfect score and \$10 for taking the test. The program is funded by private donations (Ash, 2008c; Miller, 2008; Toppo, 2008; Medina, 2007b; New York City, 2007; The Rockefeller Foundation, 2007). The city of New

York plans to conduct an evaluation of the program to determine its impact on student performance and whether it is a cost-effective approach to reducing poverty.

REACH (Rewarding Achievement) offers cash awards to selected New York City schools and their students based on the number of advanced placement (AP) exams they pass. The program was implemented in 25 public and six private high schools during the 2007-08 school year. All schools selected for the program serve a high proportion of low-income Black and Hispanic students. Students receive \$1,000 for a top score of 5; \$750 for a score of 4; and \$500 for a score of 3. Participating schools also receive \$2,000 and are eligible to apply for grants of up to \$10,000 to upgrade and expand their AP programs. The REACH program, run by the Council of Urban Professionals and sponsored by the Pershing Square Foundation, is designed to improve the college readiness of low-income students, especially those from ethnic groups that are typically under represented in higher education (Council of Urban Professionals Institute, 2007; Medina, 2007a). Findings concerning the program's impact on the number of students participating in and passing AP exams have not yet been published.

- **Dallas.** As part of the Dallas Independent School District's (DISD) Advanced Placement Incentive Program, students are awarded cash when they pass AP exams. Students receive between \$100 and \$500 for each passing score they earn (there is variation across schools in the amount paid per passing AP exam). The program also subsidizes students' exam fees. AP teachers receive between \$100 and \$150 for each passing score earned by one of their students in addition to bonuses and salary supplements ranging from \$1,000 to \$10,000 per year. The program began with initial funding from the O'Donnell Foundation and other donors have since joined to sponsor the program. Private donors pay between 60 and 75 percent of the total costs of the program and district covers the remaining costs. The program focuses on seven AP math and science courses (calculus, statistics, computer science, biology, chemistry, physics, and environmental science), plus English Language and English Literature. The program began in 1996 with 10 Dallas high schools. Based on increases in the number of

students participating in and passing AP exams, a non-profit organization, Advanced Placement Strategies, was created to manage the program statewide. The program has since expanded to 69 school districts throughout the state of Texas (Reddy, 2007; Dickson, 2006; O'Donnell, 2006; Hudgins, 2003). The effect of the program on the number of students participating in and passing AP exams is discussed in a later section of this report.

Earning by Learning (EBL) is a privately funded incentive-based program that encourages children to read. The program operates in 64 Dallas elementary schools and offers students cash incentives for reading books outside of their normal curriculum. After reading a book, students access an online quiz to test their comprehension. If they answer at least 80 percent of the quiz questions correctly, they earn a \$2 reward. *Earning by Learning of Dallas* (2008) reported that since the program's inception, approximately 60,000 students have read over 594,000 books.

- **National Math and Science Initiative (NMSI).** The NMSI has awarded grants to seven states that will allow them to replicate Dallas' Advanced Placement Incentive Program. Alabama, Arkansas, Connecticut, Kentucky, Massachusetts, Virginia, and Washington each received a \$13.2 million grant. NMSI was created by members of the American business, education, and science communities. ExxonMobil Corporation is the association's lead contributor (\$125 million). The Bill and Melinda Gates Foundation and the Michael and Susan Dell Foundation also provide donations to the initiative (National Math and Science Initiative, 2008).

In addition to the seven state grants, the NMSI awarded South Dakota \$2 million to pilot a statewide online incentive program. The pilot program is designed to increase access to AP math, science, and English courses by making them available online through the South Dakota Virtual School. Beginning in the fall of 2008, students will earn \$100 for each AP exam they pass. In addition, teachers of students who receive passing scores will also receive \$100 (Smith, 2008).

- **Georgia.** Eighth and eleventh grade students from one middle and one senior high school in Fulton County participated in an incentive

program designed to increase their math and science achievement levels. The program targeted students who had trouble attending after-school study sessions because they held part-time jobs. Students selected to participate in the program also had attendance problems, as well as low grades and test scores. Students earned \$8 an hour for attending after-school math and science tutorial sessions for up to four hours a week. In addition, they were eligible for bonuses of \$75 (grade 8) or \$125 (grade 11) if they maintained a "B" average in both their math and science courses and passed state exams in those subjects. The program was privately funded through the Atlanta-based Learning Makes a Difference Foundation (Ash, 2008; Miller, 2008; Toppo, 2008). Since the program just began this year, its impact on students' academic performance has not yet been determined.

Students at Northeast Health Science Magnet School in Macon, Georgia qualified for prizes such as iPods, movie tickets, or dinner for two, if they attended Saturday study sessions. Students who made the school's All-A Honor Roll qualified for a drawing for a 26-inch flat screen television. The school reported an increase in the number of honor roll students after the incentive program was implemented, from 10 in 2006-07 to 25 in 2007-08 (Toppo, 2008).

- **Denver.** Manual High School in Denver, Colorado created an incentive program to encourage students to take part in the statewide Colorado Student Assessment Program (CSAP). Students received \$5 for each test they took. Another \$1 was awarded for good behavior, such as arriving for the test on time. With nine tests administered over three days, students were eligible to receive about \$50. The school reported 100 percent attendance on test administration dates. When CSAP results are released this summer, students will also be rewarded if they scored better than expected, based on past test performance. The program was funded by private donors (Bennett, 2008; Mitchell, 2008).
- **Florida.** Although the state of Florida has no official student incentive plan, some schools have made individual efforts to reward students for their performance or attendance. At a Sarasota High School, administrators

distributed iPods to students who consistently attended FCAT study sessions. At a Tampa elementary school, students with top FCAT scores ate lunch with the principal after being chauffeured to the restaurant in a limousine. In 2001, two middle schools in Hernando County paid students for perfect FCAT scores and gave smaller awards to students who received lower passing scores on the exam. Money from fundraisers, Coca-Cola sale profits, and contributions from local business partners was used to pay for the rewards (Matus, 2007; King, 2001).

Matus (2007) estimated that a Florida student incentive program with reward amounts similar to those paid in Coshocton, Ohio would cost the state approximately \$100 million. He believes that the state could have funded a student incentive plan with existing money back in 2006-07. He suggested, for example, that if the \$150 million distributed to teachers in high-performing schools was instead redirected to students passing the FCAT, average pay outs would approach \$200 per student. If the incentive program was more narrowly targeted (for example, to the 700,000 students who failed the reading portion of the test in 2007), average pay outs would approach \$400.

John Winn, Florida's former Commissioner of Education (quoted in Matus, 2007) stated that Florida already has the largest student incentive program in the country: the Bright Futures Scholarship. The program covers \$400 million in college tuition costs each year for Florida students who maintain a "B" average and earn qualifying scores on the SAT, ACT, or CPT college entrance exams (Florida Department of Education, 2008).

- **Attendance Incentives Across the U.S.** Incentive programs designed to increase classroom attendance have sprung up in schools and districts around the country. Pressure to increase attendance rates has mounted in recent years since the No Child Left Behind law factors attendance into its evaluations of schools. In addition, funding in some states, such as California, Illinois, Texas, and Wyoming, is calculated based on average daily attendance (McGhee, 2008; Belluck, 2006). Incentive programs reward students with prizes such as cash, cars, iPods, laptops, DVDs, gift certificates, and bicycles. Some prizes are

donated by local businesses or community members, while others are paid out of school budgets. Examples of incentive plans that reward student attendance have been reported in Arizona, California, Colorado, Connecticut, Illinois, Indiana, Kentucky, Massachusetts, Oklahoma, South Carolina, Texas, and Wyoming.

Research on Reward Programs

Research has produced mixed findings on the effect of incentive-based reforms on student performance. The following is a brief review of these studies.

- Raymond (2008) examined a non-random sample of charter schools implementing student incentive programs. Raymond studied charter schools because many of them have the operational flexibility to implement these types of programs. A survey was sent to charter schools in 17 states that had agreed to participate in a study of overall charter school effectiveness. Fifty-seven percent of the schools (106 schools) reported using a student incentive program and were included in this study. Schools reported offering a range of student rewards, including cash, gifts, credit to purchase items at the school's store, certificates of merit, access to selected activities, and college fund contributions.

The use of a reward system was found to be a significant predictor of student learning gains in reading across all grade levels. The study found an average gain of four percentile points in students' performance on standardized reading tests for each year they participated in a rewards program, in addition to the gains they would typically be expected to make. The study found no impact on students' math scores. Raymond also found larger gains in schools where the rewards programs were strongly supported by school staff and had continuous feedback built into their designs. Principal ratings of the effectiveness of incentive programs declined as grade level increased. The study did not differentiate which rewards might have produced the strongest effects. Raymond noted that her findings should be interpreted with caution because schools that adopt reward programs "may be systematically different in some unmeasured way from those that do not use them."

- Bettinger (2008) conducted a three-year experiment in Coshocton, Ohio to test the effect of incentives on students' academic achievement. Randomly selected students in grades 3 through 6 were eligible for cash rewards when they earned high scores on state proficiency exams. Analyses indicated that the incentive program had a significant, positive effect on math scores. Incentives had no impact on reading or writing scores and led to small, but not significant, gains in science and social studies. Students who gained the most from receiving a reward were those already performing at higher levels. The effect of incentives on test scores was consistent across students' ethnicity, gender, and socioeconomic status. Bettinger found that the positive effects of the reward program on math scores did not carry over into subsequent years when students were no longer eligible for the reward. Students reverted back to their initial achievement levels once rewards were withdrawn. Bettinger cautioned that it is uncertain if higher math test scores were due to students working harder to earn rewards or to changes in teachers' instructional practices.
- O'Neil, Abedi, Lee, Miyoshi, and Mastergeorge (2004) studied the effects of incentives on students' test performance. The researchers conducted two studies with twelfth grade students at 14 southern California high schools. A total of 537 students, including a large proportion of English language learners, participated in the two studies. Students were randomly assigned to incentive or control conditions and tested on 20 Third International Mathematics and Science (TIMSS) math literacy items. Students in the incentive condition received \$10 for every item they answered correctly (for a possible total of \$200). Analyses found no significant differences between the scores of students in the incentive group and students in the control group. When the researchers controlled for students' prior reading performance on the SAT-9, they still found no significant differences between the two group's test scores.
- Sansgiry, Chanda, Lemke, and Szilagyi (2006) studied the effect of student incentives on test performance at the University of Houston's Pharmacy College. Students were required to take a series of three *Milemarker* exams, comprehensive tests used to assess knowledge

and retention of course information. There were no consequences for poor performance on the first two exams. The third exam, however, was considered “high stakes” because it determined progression to the experiential portion of the curriculum. From 2000 to 2003, students received reference books and certificates of achievement as awards for passing the first two exams. In 2004, incentives were changed to bonus points that would count toward students’ scores on *Milemarker III*. The high-stakes nature of *Milemarker III* was considered the student incentive for that exam.

Results indicated that books and certificates did not lead to significant increases in student performance on the *Milemarker I* and *II* exams. Passing rates for the two exams did increase significantly when students were rewarded with bonus points instead of books and certificates. When passing rates for the first two exams (regardless of reward type) were compared to those for *Milemarker III*, passing rates on the third exam were found to be significantly higher. The researchers concluded that the high-stakes incentive was more effective in improving student performance than the awarding of books, certificates, or bonus points. It should be noted that this study was conducted using college-aged students and the results may not be generalizable to K-12 students.

- Flora and Flora (1999) studied the long-term effects of the *BOOK IT!* program on later reading habits and interest in reading. Over 22 million children in the U.S., Canada, and Australia participate in the *BOOK IT!* program, sponsored by Pizza Hut, each year. Participating grades K-6 students receive a free personal pan pizza when they meet their monthly reading goals. Reading goals are set for each child individually by their classroom teachers. Flora and Flora studied Youngstown State University students who had participated in *BOOK IT!* as children. Based on administration of surveys to 171 former program students, they concluded that childhood participation in the *BOOK IT!* program had little effect on students’ self-reported amount of reading or enjoyment of reading in later years.
- Dickson (2006) presented data on advanced placement (AP) exam participation and passing rates prior to and following implementation of Dallas’ Advanced Placement Incentive Program. Data are based on the 10 Dallas high

schools that began program implementation in 1996.

- The number of AP exams taken increased 9.4 times in 10 years (from 379 in 1995 to 3,567 in 2005).
- The number of passing scores in math, science, and English increased 7.6 times (from 157 in 1995 to 1,192 in 2005).
- In 2005, minority students passed AP exams at a rate almost three times greater than minority students in the U.S. For every 1,000 juniors and seniors, Black and Hispanic program students earned 70 passing AP exam scores. Nationwide, Black and Hispanic students earned 24 passing scores for every 1,000 students.

It should be noted that, although the actual number of students taking and passing AP exams increased from 1995 to 2005, the percent of students passing AP exams actually decreased from 41 percent in 1995 to 33 percent in 2005. Program donors have stated that the initiative’s success should be measured by the number of passing scores, not the passing rate. They believe the goal of the program is to encourage more students to take AP courses. By increasing accessibility to AP courses, they recognize that more students who are less prepared will take AP exams (Wertheimer, 2000).

- Jackson (2007) compared the SAT and ACT scores of students at 41 schools participating in Texas’ Advanced Placement Incentive Program (APIP) to a control group of schools that had not yet implemented the program. He found that students attending APIP schools had significantly higher SAT and ACT scores and were more likely to enter college. At APIP schools, there was a 30 percent increase in the number of students scoring 1100 on the SAT or 24 on the ACT and an 8 percent increase in the number of students enrolling in Texas colleges. Improvements in SAT and ACT scores at program schools were found across all ethnic groups and for both male and female students. Jackson, however, believed that the incentive program produced positive outcomes for reasons not directly related to monetary awards. He concluded that the program actually changed the culture of the participating schools, based on the following data:

- increased AP participation did not reduce participation in other advanced courses;
- the effect of the program was no stronger in schools with higher cash rewards; and
- AP course enrollment increased for all AP courses, even if rewards were only given for certain subjects.

Jackson suggested that the program had a positive impact on students because it led to more access to AP courses, increased participation in AP courses, greater emphasis on AP courses, changes in teacher and student attitudes toward AP courses, and more information provided to students on the benefits of taking AP courses.

- Research documenting the success of incentive programs designed to increase student attendance is limited. Most schools implementing attendance incentive programs have seen small increases in student attendance rates (Viren, 2008; Cosgrove, 2007). Some schools have reported more notable results. At a Phoenix, Arizona high school, only one student had perfect attendance prior to the implementation of an incentive program. The year the program began and raffled off a new car, 2,100 students had perfect attendance (Sanzone, 2008). At a Lexington-Richland, South Carolina elementary school, the number of students with perfect attendance increased from an average of 145 students prior to program implementation to 236 students once rewards became available (The State, 2008). An elementary school in Rossville, Georgia, a low-income, rural community, saw significant improvements in attendance after they began rewarding students with prizes, such as bicycles and video gaming systems, for coming to school. Prior to the implementation of the incentive program, approximately 15 percent of students were absent for more than 15 days. Two years later, only 3.5 percent of students missed more than 15 days of school (Belluck, 2006). Hines (1997) studied the effectiveness of the *Stay in School* (SIS) program, designed to improve attendance at Boston middle schools. The program offered students monthly prizes and hosted visits by famous athletes to encourage students to attend school. Hines reported a significant increase in attendance rates during SIS implementation, but cautioned that other attendance initiatives simultaneously took place

in the schools, so not all of the increase could be definitively attributed to the SIS program.

At Chelsea High School in Massachusetts, attendance rates actually declined after officials implemented an attendance incentive program. School staff and students said the decline occurred because the incentive program also reduced punishments for poor attendance. Students no longer received grade point reductions for unexcused absences or had their grades withheld if they had more than two unexcused absences per quarter. The school subsequently revised their attendance policy, retaining the cash rewards but reinstating some penalties. Critics of Chelsea's program also claimed that the incentive program was less effective because rewards were delayed for too long a period of time. Students were not able to collect their rewards until they graduated from the school (Belluck, 2006). In the Fort Worth, Texas Independent School District, high school and middle school students with perfect attendance for a full year were eligible to enter drawings for prizes that included cars, \$1,000 shopping sprees, computers, iPods, digital camcorders, and gift certificates to local restaurants and retailers. The district discontinued the program in 2008 after determining that it had not led to significant increases in attendance rates (Viren, 2008; Jones, 2007).

In summary, although incentive-based reforms appear to lead to increased participation and passing scores on advanced placement exams, their impact on other test scores has been less consistent. For example, one study concluded an incentive program had a significant impact on students' math but not reading scores, while another study reported a significant impact on reading but not math scores. A third study examined only math scores and found that incentives did not lead to increased test performance. Furthermore, one study found that students who gained the most from rewards were those already performing at higher levels; however, other studies have concluded incentive programs provided the greatest benefits to marginal students, or those who initially scored just below passing thresholds (Angrist & Lavy, 2007; Kremer et al., 2004).

One explanation for the general lack of consensus among studies may be that the impact of incentive-based reforms on student outcomes depends on the specific population of students rewarded, which

behaviors are rewarded, and the type of reward offered (Bettinger, 2008). Studies have, however, confirmed the important role support from parents, school staff, and the community play in the success of incentive programs. Clearly, more research is needed to determine if incentive-based reforms are an effective method for improving students' academic performance and behavior.

Recommendations for Implementing Successful Incentive-Based Reforms

Researchers have tried to determine the conditions under which incentives will be most effective and how to maximize their impact on students. The following are recommendations for implementing incentive-based reforms.

- Incentive programs should be portrayed as financial support for students' success, not as a bribe that induces them to study (Aronson, quoted in Mills, 2003).
- Rewards should be desirable. Students will work for rewards that appeal to them, but will not work as hard for rewards that are not appealing. For example, cash may be the primary motivator for one student, but a field trip or college tuition reimbursement might act as a greater motivator for another student (Ash, 2008c; Jalongo, 2007; Willingham, 2007; Chance, 1992; Seoane & Smink, 1991).
- Students must understand exactly what they need to do in order to receive the incentive (Seoane & Smink, 1991).
- Incentive programs should be used to reward very specific tasks. Any decrease in motivation caused by the rewards will then be associated only with a particular task. For example, students will think "multiplication tables are boring," rather than "math is boring" (Willingham, 2007).
- Rewards are useful for motivating students to engage in a task they consider dull but that, once mastered, leads to greater learning opportunities. For example, memorizing the multiplication tables might seem boring, but once they are learned, students are ready for more interesting work (Willingham, 2007).
- Rewards can be used to boost students' self-confidence. Some students have so little confidence in their abilities that they are unwilling to even attempt a task. If they try the task in order to get a reward and succeed, their perception of their abilities will improve (Willingham, 2007).
- Inadvertently rewarding the wrong behavior produces undesirable results (Willingham, 2007; Chance, 1992). Willingham (2007) related an anecdote in which students in his fourth grade class were rewarded for each book they read. Many of the students, he said, "quickly developed a love for short books with large print."
- Rewards should be tied to each student's current level of ability and attainable by most students. If the target seems too difficult, students may not even try to attain it. If the target seems achievable and students make an attempt but fail, the likelihood they will try again is greatly reduced (Angrist et al., 2008; Willingham, 2007; Seoane & Smink, 1991).
- Some research indicates that rewards are more effective when they are tied to meeting progressively demanding standards, as opposed to a fixed level of performance (Pierce et al., 2003). Seoane & Smink (1991) suggested using different levels of incentives for different levels of achievement.
- Rewards are more powerful when they are delivered promptly. A reward that is delayed is less attractive than the same reward delivered immediately (Angrist et al., 2008; Willingham, 2007; Belluck, 2006).
- Incentive programs should be implemented consistently so the program is perceived as fair by all students (Seoane & Smink, 1991).
- Parent and community support should be obtained prior to implementation of student incentive programs. Kremer, Miguel, Thornton, and Ozier's (2004) study concluded that parent and community support played an important role in the success of Kenya's student incentive program. Similarly, Raymond (2008) found larger student test score gains in schools where reward programs were strongly supported by school staff.

- An advisory committee should be established prior to implementation of student incentive programs. The committee can guide the operational aspects of the program, obtain feedback from a variety of sources, educate the community, and resolve any concerns about the program. The committee should include a broad representation of educators, parents, and community members (Bettinger, 2008).
- Using private donations to pay for incentives reduces the controversy often associated with student reward programs that are funded with taxpayer money (Medina, 2008; Miller, 2008).

Summary

Financial incentives have been used for years in the business world and throughout society to encourage higher levels of performance. Educators are now asking if incentive-based reforms can be used effectively in school settings. The rewards usually associated with learning, such as gaining understanding, developing mastery, and satisfying curiosity, do not appear to be sufficiently motivating to a large number of students. In addition, the long-term benefits of education, such as getting accepted to college or finding a good job, are intangible to many students. This Information Capsule summarized the arguments for and against incentive-based reforms and highlighted some of the larger reform efforts being implemented in districts and schools throughout the United States.

A review of research conducted to date on incentive-based reforms produced no conclusive findings. Although these reforms appeared to lead to increases in the number of students participating in and passing advanced placement exams, their

effect on other test scores has been less consistent. Studies have, however, confirmed the important role support from parents, school staff, and the community play in the success of incentive-based reform efforts. One explanation for the lack of consistency in research findings may be that the impact of incentive programs depends on the specific population of students being rewarded, which behaviors are rewarded, and the type of reward offered. Clearly, more research is needed to determine if incentive-based reforms are an effective method for improving students' academic performance and behavior.

Research-based recommendations for implementing reform efforts, such as finding rewards that will motivate students, rewarding only very specific tasks, and delivering rewards promptly, are also provided. Local, state, and national economic difficulties may preclude the implementation of incentive-based reforms at this point in time; however, they may hold promise in the future.

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