Paying for A’s: An Early Exploration of
Student Reward and Incentive Programs in Charter Schools

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Executive Summary
Recent public attention has spotlighted the use of reward programs for K-12 public school students. Against a backdrop of school accountability policies, districts such as Baltimore, Fulton County, Georgia, and New York City have structured student reward systems that are being met with support, skepticism and indignation. Until now, the outlines of those schemes and the degree to which they improve student academic achievement have not been examined.

Charter schools provide a chance to study the operation and impact of reward systems for students. Due to the operating flexibility charter schools are allowed under law, student incentive programs have widespread practice in charter schools across the country.

The research aim of this study was to determine if the presence of such incentives and rewards in charter schools significantly affects the academic outcomes of students. This study examines a non-random sample of charter schools and their decisions to use or forego an incentive program in their school to see if the systems enhance academic achievement gains.

The survey was sent to 250 charter schools and was completed by 186 of them, a 74% response rate. Of the respondents, 106, or 57%, reported that they use a system of rewards and incentives with their students.

**Reward Programs in Practice.** The findings show that the program designs exist in all grade levels; their use becomes more common as the grade level increases, peaking in the ninth grade and declining in prevalence thereafter. Interestingly, principals consider reward systems to be more effective with students in lower grades -- even though they are used less in early elementary than in middle schools – and perceive the effectiveness to decline as students mature.

Most combine student behavior, academic effort and results into their schemes (93 percent of schools). Across these systems, classroom behavior is rated in 93% of the schools, followed by completion of assignments in 89% of schools. Student-adult interactions, such as speaking respectfully or accepting direction, are rated in 86% of schools. They do vary in the intensity with which students are scrutinized with longer periods of review in higher grade levels.

Teachers shoulder the most responsibility for monitoring student conduct and assigning rewards or sanctions; this is not surprising given the focus of the schemes and the large proportion of the day teachers and students are together. Principals are more involved in behavioral areas and in determining whether grade- or school-wide rewards have been earned. Other school staff members are also called upon to get involved, typically in the behavioral areas or in charting student attendance. Since reward systems rely on multiple individuals to operate them, one important consideration in judging their success is the degree to which the adults share a common belief in their worth, a factor that was considered in the impact analysis.
Schools were found to vary in how frequently student conduct was tallied up. Some schools only calculated student rewards at the end of academic terms or quarters (3% of the schemes), while others were more constant in their review (44%). Clearly, programs that reinforce behavior more immediately would be expected to have stronger impacts than those where a considerable lag between behavior and reward exists. The frequency of review was incorporated into the impact analysis, as explained below.

**Impact of Reward Programs.** The basic models for both reading and mathematics examine the impact on student learning gains for a cohort in a school by a list of independent factors, including base year academic performance, cohort demographics, poverty status, English language proficiency, special education status and a variable indicating the presence of a reward system in the school where the cohort is enrolled.

While this analysis is exploratory and based on a small number of cases, it shows consistent impact of incentive and reward programs across grades and designs in terms of student achievement gains on state achievement tests in reading. At the same time, there is no evident impact in math.

In reading, the presence of a reward system contributes 0.11 standard deviation units to the average student’s learning. That effect size would add 4 percentile points to the average student’s performance each year the student participated in a rewards program.

The analysis attempted to further refine our understanding of what features of reward systems were significant in creating the gains that were observed. Three additional insights arose. The stronger the reported rating of how effective a reward system is, across the principal, teachers and other staff members, the larger the realized student learning gains. Where all the adults in a school gave the system the highest possible rating (a 10 on a 1 to 10 scale) the learning gains increased to 0.15 standard deviation units, or an increase of 5 percentile points. And when the reward system operates at a high level of intensity, as reflected in the continuousness of review of student conduct and a strongly cohesive commitment to using the system among adults in the school, then the impact increases to 0.18 standard deviation units or about 6 percentile points.

To put these results into a comparative framework, consider that a number of charter schools belong to networks or Charter Management Organizations (CMOs) that seek to export successful education strategies to new school startups. The prevailing expectation is that networks accelerate the capacity of the new schools to perform at high levels. In this analysis, membership in a charter network was found to produce impacts on academic gains ranging from 0.13 to 0.17 standard deviations, or around 5 to 6 percentile points. When a school operates a reward program, they realize similar academic gains for their students, over and above the advantage of network membership. The two effects can be additive. More dramatic, however, is the relative cost difference of operating a reward system based on special events, field trips and logo shirts compared to the costs of building a network infrastructure.
**A Question of Selection Bias.** The results from the regression analysis described above provide reason for cautious optimism about the potential for reward systems; they may not be a silver bullet but they appear to be a brass one. There is an abiding question, however, that schools that adopt reward programs may be systematically different in some unmeasured way from those that do not use them; if so, then the importance of reward programs may be biased.

The possibility was tested through the use of an instrumental variable – a statistical technique that uses a factor that can strongly predict the adoption of a reward system but that is not associated with the outcome of interest or academic achievement gains of students. The chosen instrument was the proportion of the adult population living around the charter school with less than a high school education. The instrument strongly predicts that schools adopt reward programs with greater certainty in areas where the local adult population has lower educational attainment. Once the relationship between local educational attainment and adoption of reward systems is considered, the impact of the reward systems themselves evaporates. The sample is too small to draw strong conclusions at this point – adding an additional year of data and more schools to the sample will allow further testing of this question of selection bias.

**Discussion & Conclusion.** This study is novel in a number of ways. It is one of the first times that charter schools as a group provide insight on the efficacy of one of their innovations; the maturity of the sector has reached a point where their potential as Research and Development organizations for public education can be realized. Further, since similar programs are growing in both number and complexity around the country, the lessons gleaned from this analysis provide immediately useful input for decisions regarding their use. As well, the results offer current users of reward systems insight into how to improve the impact of their designs.

Recognizing that this analysis is preliminary, the findings are still promising. Across a variety of model specifications, reward systems are found to have stable and consistent positive impacts for student learning in reading. The effect holds across grades and across network and non-network charter schools. Moreover, the success of incentive/reward systems appears to hinge on a number of factors that are under the control of the school. These are:

1. Schools whose personnel are strongly aligned in the view that reward systems are effective fare better than schools where the support is weak or where the adults are less aligned. Where the adults align, several important conditions arise. The rules of the reward system are more consistently applied, which in turn leads to a more uniform signal of expectations for students both for behavior and for learning, which are well documented antecedents to achievement. At the same time, having strong confidence in the effectiveness of a reward system is likely also to improve its impacts by reinforcing the expectations of the adults who employ it with students.
2. Schools in which there is continuous or near-continuous assessment of student conduct produce larger gains in reading than schools that have reward systems.
but tally up less frequently. This finding is consistent with established wisdom about continuity in reinforcement and reward: the more constantly behavior is reinforced, the faster and more enduring the learning. So schools might benefit from a redesign of their systems to provide their students more consistent and continuous feedback.

3. The effect of reward systems is over and above any gains in academic achievement that arise when a charter school is a member of a larger network or CMO. The effects are roughly equivalent, and are additive. However, considering the low costs of operating reward systems, they provide a cost-effective means to improved learning gains.

4. There are potential problems with selection bias in the schools that adopt reward systems, but with the currently available data it is not possible to make a certain determination. Future enhancements to the study will support deeper investigation into this question.