

CLOUD BASED LEARNING PLATFORM

Milestone 8 Update

Grant # AID-OAA-F-13-00033

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Update on project implementation including any challenges encountered, and plans to mitigate them.

Project implementation has been completed. All milestone deliverables have been achieved.

Delivery of student final exams results for 2014 - 2015 school year at both school sites

As in the previous analysis, the analysis of the term three scores utilized a difference in differences approach, combining both pilot schools and data from the current (2014) and previous (2013) year. The progress of non-treated sections is used as a counterfactual for the progress of the treated ones. The sample is comprised of a balanced panel of students in grades 2-7 at the two schools. The identifying assumption is that the Treated students would have experienced the same trend as the Control students from last year to this year in the absence of the intervention.

Intuitively, the difference-in-differences estimates tell us how much outcomes for the treated students improved from last year to this year, relative to the other students.

Estimated Treatment Effects of Tablet Intervention, Third Term

Dependent variable: Exam Scores (in standard deviations)

	(1)	(2)	(3)	(4)
Treated classes x Post implementation	0.138 (0.232)	0.138 (0.233)	0.260 (0.307)	0.090 (0.189)
Sample	Full	Full	Low Performing Students	High Performing Students
Controls	None	School	None	None
Number of observations	944	944	286	658
Number of students	472	472	143	329

Notes: This table shows difference-in-differences estimates of the effect of the tablet intervention on test scores. The dependent variable is standardized exam scores. The base sample is comprised of a balanced two-year panel of students in grades 2-7 at the two pilot schools, for a total of 944 test score observations for 472 students. All regressions include a treatment dummy and a fixed effect for post-implementation year (i.e. the 2014-15 academic year) as well as the displayed interaction term, which shows the estimated impact of the intervention on the treated students. The regression in Col. (3) examines the lower-performing students, those in the lowest tercile, coming into the study. The regression in Col. (4) examines the higher performing students, those in the top two terciles. Standard errors are clustered by class section, with 21 total clusters.

Overall, the test score gains in Term 3 from last year to this year were roughly 0.14 standard deviations higher for Treated students relative to the Control students (Column 1). This estimate is robust to controlling for the school that the student attends (Column 2).

As was noted in the previous update, although not statistically different, these results appear to be concentrated among the weakest students—i.e. those in the bottom tercile (1st-33rd percentile) of the baseline test score distribution (Column 3). The test score increase for treatment students in the bottom tercile was 0.26 standard deviations higher than for the bottom tercile of control students.

While generally encouraging, these effects are only suggestive given the small sample size. A randomized evaluation, at sufficient scale to ensure balanced treatment and control groups, will provide more rigorous evidence of impact. In addition, we are monitoring the behavior of the students and the teachers when using the software to understand why these heterogeneous effects may occur and to increase the overall impact of the tablets across all children.

Phase 3 (Implementation of pilot) complete

Phase 3 (implementation of Pilot) has been completed. We are currently finishing Phase 4 (end-line evaluation activities).

Focus groups to enhance and identify any usability issues of the software conducted

The following usability enhancements were identified in focus groups with students and teacher interviews. Attached to this document are design mock-ups of the enhancements that we are integrating into the software:

- Add gamification to the quiz summary screen to provide positive reinforcement for students
- Graphical Login to enable students to log-in themselves
- Add in-app visual feedback to help teachers track student performance in class
In the quiz screen, the background color of the circle that shows the score will change colors, depending on the current mastery index of the student in that category. The three colors are:
 - Orange for 0-33
 - Blue for 33-66
 - Green for 66-100