Combined Years 2 (2012-13) and 3 (2013-14) Elementary VISTA Student Level Impact
Analysis
Grade 5 science SOL achievements with grade 3 science SOL covariates
Students nested within schools (teacher teams)

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Executive Summary

Does the VISTA professional development for 5th grade science teachers have a positive impact on the science achievement of their students after a year of teacher exposure to the program?

Teacher and Student Attrition

One-hundred-fifteen teacher teams were randomly assigned to treatment (N = 58) and control (N = 57) conditions. Of these, 85 teacher teams had one or more 5th grade teachers and were tracked for purposes of evaluating the impact of VISTA on students 5th SOL science test scaled scores. At the conclusion of the second and third year of the VISTA study, 64 teacher teams remained in the study (N = 41 treatment, N = 23 control; see Table below). This represents an overall attrition rate of (1- 64/85 =) 24.7% and a differential attrition rate of 40.6%. WWC v2.0 allows for a differential attrition rate of 9.2% for an overall attrition rate of 25%. Consequently, we did not meet this standard. Baseline balance testing was conducted on the analytic sample due to high attrition in the randomization sample.

Impact Analysis

Evaluation of the impact of VISTA on student level grade 5 science SOL test scaled scores was examined through a two level model in which students were nested within teacher teams, where random assignment occurred at the level of school (teacher) teams. 3rd grade science SOL test scaled scores were used as a covariate in all models.

Results of this impact analysis did not reveal a statistically significant difference between treatment and control conditions, $t(55.94) = 0.84$, $p = .40$. Controlling for model covariates, the average SOL test scaled score of students exposed to treatment team teachers was 4.3 points greater than that of students exposed to control team teachers.

Results of the impact analysis between year two control and treatment + delayed treatment teachers also did not reveal a statistically significant difference between treatment and control conditions, $t(363.76) = 1.28$, $p = .20$. Controlling for model covariates, the average SOL test scaled score of students exposed to treatment team teachers was 4.33 points greater than that of students exposed to control team teachers. Hedges $g = .07$.

Subgroup Analysis

The impacts of VISTA on 5th grade science SOL scaled test scores for at-risk subgroups (i.e., ELL, special education students, and economically disadvantaged students) were evaluated. The differential impacts of VISTA on 5th grade science SOL scaled scores between ELL vs. non-ELL students, regular education vs. special education students, and economically disadvantaged vs. non-economically disadvantaged students were examined. Subgroup analyses for ELL and non-ELL students and economically disadvantaged vs. non-economically disadvantaged students did not result in statistically significant interactions between the treatment condition and subgroup status. However, impact models that merged the delayed treatment and treatment groups revealed statistically significant differences between disability treatment students and disability control students when evaluated in relation to a slightly liberal alpha level, $t(86.49) = 1.94$, $p = .056$, that favored treatment students by an average of 11.52 points. Hedges $g = .20$.

Additional subgroup analyses explored the relationship between 4th grade reading achievement and 5th grade reading achievement following the professional development. Again, this subgroup analysis resulted in no statistically significant difference between condition on grade 5 reading SOL test scaled scores, $t(31.74) = 0.40$, $p = .69$. However, impact models that merged the delayed treatment and treatment groups did reveal a statistically significant difference with the control group, $t(315.91) = 4.61$, $p < .001$. Students exposed to treatment teachers scored 17.01 point higher than those students exposed to control group teachers. Please note that we have no way to determine whether these students had teachers in the VISTA study for reading instruction.