

Direct Instruction wins high marks in a dual-reform project

DRAMATIC INCREASES in standardized test scores in mathematics computation, coupled with significant gains in reading comprehension scores stood out among the somewhat mixed results of a four-year study of an attempt to combine two reforms in six Baltimore City elementary schools.

Overall, the study found Direct Instruction, one of the reforms, to be a viable option for raising student achievement in reading and mathematics. Implementation of the other comprehensive reform, Core Knowledge, began only in the third year of the study, so results are inconclusive, though anecdotal evidence from teachers and focus groups was positive.

The Baltimore Curriculum Project: Final Report of the Four-Year Evaluation Study (CRESPAR Report 62) documents the results of a multi-method study of the two-tiered reform effort. The nonprofit Baltimore Curriculum Project (BCP) combined Direct Instruction (DI) and Core Knowledge to bring a proven reading-math program and a content-rich curriculum in literature, history, geography, science, and the arts to students in the poor-performing schools under its direction.

For the CRESPAR study by researchers Martha Mac Iver, Elizabeth Kemper, and Sam Stringfield, each of the BCP schools was demographically-matched with a similar school within the district as a reasonable control to which it could be compared.

The researchers followed two cohorts of students in the BCP and the control schools—students in either kindergarten or second grade during the 1996-97 school year (primarily in third and fifth grades, respectively, during 1999-2000). They conducted interviews with principals and DI coordinators, and focus groups with teachers during each

year of the study to gauge BCP-school staff perceptions of the innovation.

In the first three years of the study, detailed classroom observations were made in the BCP schools. Collected data provided evidence about the implementation and the classroom-level effects of the BCP curriculum. Classroom observations and interviews indicated that the DI curriculum and instructional methods were indeed implemented, though the developer noted that implementation did not proceed at the desired rate in kindergarten until the fourth year.

Core Knowledge implementation was not expected to begin until year 3, and proceeded more slowly than the DI implementation. Teacher surveys and focus groups found positive views of both DI and Core Knowledge, but also revealed some frustrations.

Analyses of achievement test data indicated mixed results for students, depending on their subject, grade level, and school.

In mathematics computation for the original kindergarten cohort, DI students moved, on average, from the 16th percentile at the end of first grade to the 48th percentile at the end of third grade (compared with growth among control counterparts from the 27th to 36th percentile over the same period). The impact on computation achievement for the original second grade cohort was nearly as strong.

On the other hand, while DI students improved somewhat in mathematics concepts achievement, they continued to score well below national norms and their control counterparts in mathematics concepts (26th percentile).

Students at DI schools also made considerable progress in reading over the four years. On the primary measure of reading comprehension, members of the original kindergarten cohort were, on average, reading at grade level (49th per-

centile) by the end of third grade (after scoring, on average, at the 17th percentile on the readiness pretest, the Peabody Picture Vocabulary Test). Members of the original second grade cohort were nearing grade level (40th percentile) by the end of fifth grade.

At the four schools with the highest rates of poverty and minority students, however, the average reading comprehension achievement was at the 38th percentile for the original kindergarten cohort and the 33rd percentile for the original second-graders. Students at control schools (where other curricula to improve reading achievement were being implemented) were achieving at the same level, so there were no significant differences between the outcomes for the two groups (controlling for demographics and pretest factors).

Though limitations of the study make causal interpretations problematic, the authors view these findings as evidence that Direct Instruction (implemented at comparable levels of developer support) is a viable whole-school reform for raising student achievement in reading and mathematics.

While the reform may not necessarily perform better than other curricular alternatives, there have been sufficient achievement gains to justify its continuation as a reform option. In schools where teachers have become heavily invested in the program and scores are rising, the researchers believe it is particularly important to continue implementing the reform, as change could be disruptive.

Based on the evidence from this study, the authors would recommend that schools consider Direct Instruction as one of several reform options aimed at boosting student achievement, and make their choices based on the needs of their students and the capacities and preferences of their teaching staffs. □

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