California Comprehensive Center

Data-Driven Decision Making Based on Curriculum-Embedded Assessment: Findings from Recent California Studies

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In recent years, California public schools have engaged in numerous federal, state, district, and school-mandated assessments to monitor student progress. Data from these tests, including curriculum-embedded assessments, can be invaluable to schools for assessing the needs of students and identifying areas for improvement (Neumann, 1996; Kannapel & Clements, 2005).

A large body of national research supports the concept of using data driven decision making to improve student achievement[1]. Several recently released studies examined the effective use of data in California schools. Two studies sponsored by the California Department of Education, an evaluation of the Immediate Intervention/Underperforming Schools Program (II/USP)[2] and an evaluation of the effects of Proposition 227 on English learners,[3] included interviews with administrators of schools that showed significant achievement growth as compared with other schools with similar demographics among the subpopulations of schools studied.[4] A privately-funded study[5] conducted a large scale survey of elementary schools in California with low-income student populations in order to determine what practices were most highly correlated with student achievement. Though these studies did not focus solely on data-driven decision making, study participants nevertheless reported on their use of data for instructional planning purposes. This brief summarizes several interesting findings on effective data use from these three studies.

In all three studies, principals and teachers at schools that demonstrate the highest achievement gains attributed systematic monitoring and data-driven decision making as among the most important factors contributing to their growth.

Use of Assessment Data

Respondents in both CDE-sponsored studies at least partially attributed their success to the use of frequent, curriculum-embedded and standards-aligned assessments that could provide ongoing measures of progress. These most often included assessments associated with Open Court and Houghton-Mifflin, which can be administered on a six-week or quarterly basis. In addition, some schools created their own assessments that aligned with state standards, or used district-developed benchmark assessments. The privately-funded study underscored the importance of using multiple sources of assessment data, noting that the principals from better performing schools reported using data sources such as curriculum-embedded and other commercial assessments, district-developed assessments, and state assessments. State assessments, including standardized tests such as the

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National Center for Educational Accountability (2002). *The Broad Prize for Urban Education: Showcasing Success, Rewarding Achievement*. Austin, TX: Author. Retrieved May 31, 2006; National Study of School Evaluation (2004). *Technical Guide to school and district factors impacting student learning.* Schaumberg, IL: Author.

[2] Bitter, C. et al. (September 2005). Evaluation Study of the Immediate Intervention/Underperforming Schools Program of the Public Schools Accountability Act of 1999. (Final Report). Palo Alto, CA: American Institutes for Research.

[3] Parrish, T. et al. (January 2006). *Effects of the Implementation of Proposition 227 on the Education of English Learners, K-12.* (Final Report). Palo Alto, CA: American Institutes for Research.

[4] The Proposition 227 study focused on schools with moderate to high percentages of English learners (ELs), and the II/USP study focused on schools participating in this statewide program.

[5] Williams, T. et al. (October 2005). *Similar Students, Different Results: Why Do Some Schools Do Better? A Large-Scale Survey of California Elementary Schools Serving Low-Income Students.* (Initial Report of Findings). Mountain View, CA: EdSource, Inc.

CST, CAT/6, and CELDT, were generally reported to be useful at the beginning of the year in planning instruction, but were not administered frequently enough to be used for ongoing data-based instructional decision making.

Respondents who reported using such data also described using the information in more than one way. For example, these ongoing assessment data were used to:

- Gauge student understanding;
- Determine whether students were passing or failing;
- Identify areas for improvement;
- Form instructional strategies in English/language Arts and mathematics;
- Plan units of instruction; and
- Create specific strategies for needy students (e.g., use of tutors, after-school programs, math and English clubs).

Role of Administrators

While regular assessment provides valuable information that can facilitate decision making, the amount of data typically available to school administrators can be overwhelming. In the study of Proposition 227, principals reported using school, subgroup, and class data to guide resource allocation and goal-setting.

I look for trends and patterns... I read it, and I internalize it much more than I ever wanted to, so that I can come back and say to teachers, 'Okay, here's what it looks like statewide, district-wide, and at our school.'
- Principal

Another administrator commented that when she gets stacks of test data, she pulls out what is most significant, summarizes it in five pages, and shares it with instructional staff. Other principals reiterated the responsibility of administrators to distill important trends from the volumes of data that schools now receive.

Administrators also emphasized the importance of training teachers to use data to guide their own instructional planning, noting the importance of creating and modeling a culture of professional development around understanding data. Respondents suggested that ongoing data monitoring at regular intervals helps encourage teachers to be self-reflective about what is and is not working, as well as gain confidence in adjusting instructional plans to target student needs. A key component to successful data use appears to be setting aside time for regular, structured meetings for school staff to look at assessment data, then using it to guide decision making.

You need to have a coordinated prep period and collaboration time set aside. You need to develop a protocol to make decisions and have collective decision making based on data becoming part of the culture.
-Principal

In addition, explicitly linking instructional planning and data through an articulated plan is one strategy schools use for identifying and focusing on the data elements most critical to targeting instructional needs.

Finally, administrators from one study noted the importance of obtaining district support, including providing school sites with relevant achievement data

and aiding in the professional development on data use. Effective data practices appear when both the district and the school site have clear plans on how to track and use data.

Role of Teachers

In nearly 80 percent of the II/USP growth schools, teachers reported discussing data regularly at grade-level meetings, in professional development sessions, and at other staff meetings. At some schools, teachers reported analyzing and interpreting data, while at other schools they reported receiving data analysis or interpretation training, and collaborating with instructional coaches, peer coaches, resource specialists, principals, or assistant principals. To analyze data, teachers and administrators at several schools reported using data reports generated by district-provided software, which consolidated standardized and benchmark test data. From their data, teachers were trained to identify the benchmarks and grade-level standards that students failed to meet. For example, at one urban elementary school, teachers reviewed the district-produced assessment data for each student to identify and discuss the questions that students responded to incorrectly. They analyzed the content of each question to find out what specific areas of instruction students missed, in order to determine why students missed these questions.

Teachers at many of the II/USP schools also reported meeting regularly to follow up on student progress after each periodic student assessment. They reported engaging in the following activities:

- ♦ Analyzing and interpreting data;
- ♦ Modifying instruction;
- ♦ Implementing interventions based on individual and grade-level student needs;
- ♦ Tying instruction to standards;
- ♦ Reanalyzing data to determine student progress; and
- ♦ Modifying instruction further.

This cycle of inquiry, enacted through teacher and school administrator collaboration, was repeated throughout the academic year. A continuous improvement process, in which teachers use data for instructional planning and modification, as well as for evaluating their students' progress, appears to be a strong component for effective data use.

Role of Parents and Students

Respondents in several studies indicated that using data to empower and communicate with both parents and students also contributed to their school's success.

I do a principal's test talk with every individual student. It sounds like it's an impossible task, but it isn't... We want students to know their data. We want them to understand that it is their data, and they can change their data, and improve their data. We look at it, and talk about it. It's that individual dialogue where they know the principal's interested and that the teacher is interested in them... Another thing we do is make kids a part of their teacher-student-parent conferences.   -Principal

Data Use Practices in Growth vs. Low Growth Schools

In the II/USP study, a few differences emerged between the data use practices of schools experiencing higher growth on the API and those making lower levels of API

growth among participating II/USP schools. The main difference between reports from these groups of schools was *the extent of data use to inform instruction*. Growth schools reported using data frequently and extensively to guide instruction, while more often than not, the other schools reported using it to generally identify students who are not performing well. For example, respondents at two low-growth schools reported using data to identify needy students and unmet standards. At one of these schools, teachers used data during grade-level meetings to identify and target students on the cusp of grade-level proficiency. Respondents from growth schools more elaborately discussed the use of data to inform collaboration, guide them in making needed instructional adjustments, adjust their alignment with standards, develop intervention strategies, assess individual student progress, and develop instructional modifications.

In sum, evidence from these studies suggest that this form of data use is most effective in enhancing school improvement when it is used frequently and in conjunction with a clear and focused plan for improving student performance at both the district and the school levels.