Curriculum-Based Measurement (CBM) with Diagnostic Feedback

Why Is This Strategy Useful?

Curriculum-Based Measurement (CBM) with diagnostic feedback aims to help teachers to plan more specific instruction on a greater number of skills, to modify initial instruction, and to plan specialized adaptations effectively. The additional information on students’ errors and level of skill proficiency provided to teachers through diagnostic feedback may contribute to greater instructional differentiation. Combining CBM with diagnostic analysis is appropriate for both general education and special education classrooms.

Description of Strategy

CBM may be applied in a variety of ways including (a) establishing norms for screening and identifying students in need of special education services, (b) evaluating the effectiveness of educational programs, (c) reintegrating students with disabilities into general education classrooms, (d) monitoring progress and planning instruction within general education classrooms, and (e) identifying potential candidates for special education evaluation using a dual-discrepancy model of low level of performance and inadequate rate of improvement.

The utilization of CBM may entail:

- Assessing students’ progress towards long-term goals. Teachers should identify the pool of items (from the curriculum or other sources) that would reflect progress towards the goals determined.
- Frequent monitoring and graphical depiction of student scores for decision making; students typically are assessed once or twice weekly with scores plotted on a time-series, equal-interval graph.
- Using reliable and technically adequate measures. Teachers should use equivalent forms for measuring progress over time. Using aggregated data across multiple assessments also reduces measurement error and allows the teacher to judge whether the student appears to be on track toward attaining the long-term goal as well as to make decisions appropriately about the efficacy of the current instructional program.

The added component of diagnostic feedback aims to help teachers determine what to teach students, rather than simply to evaluate the adequacy of student response to instruction, as is the case with conventional CBM. The strategy involves creating reports with instructional recommendations based on each student needs.

Research Evidence

One review study and one randomized controlled study provide supporting evidence for this strategy. The review study found that one of the factors that enhance the effectiveness of the CBM approach is the use of skills analysis and instructional recommendations as reports to guide teachers’ instructional planning. The randomized controlled trial included 40 special education and general education teachers in elementary schools in a southeastern metropolitan school district. The teachers were randomly assigned to three conditions: CBM, CBM + diagnostic feedback, and control. Within each classroom, target students included one high-
achieving, one average-achieving and one low-achieving student. Data were compiled for 309 second-grade students and 127 resource students. Findings showed that CBM + diagnostic feedback helped teachers focus their weekly planning on fewer and more targeted goals for each student. Findings also suggested the teacher background mediated the relationship between receiving CBM + diagnostic feedback training and aligning instructional planning with students’ needs. Results suggested that for this practice to be implemented efficiently, additional support and training to teachers in interpreting and using CBM reports is needed.

Sample Studies Supporting this Strategy


This review examines the efficacy of curriculum-based measurement (CBM) as an assessment methodology for enhancing student achievement. We describe experimental-contrast studies in reading and mathematics in which teachers used CBM to monitor student progress and to make instructional decisions. Overall, teachers’ use of CBM produced significant gains in student achievement; however, several critical variables appeared to be associated with enhanced achievement for students with disabilities: teachers’ use of systematic data-based decision rules, skills analysis feedback, and instructional recommendations for making program modifications. In general education, positive effects for CBM were associated with use of class profiles and implementation of peer-assisted learning strategies. Implications for instructional practice and future applications of CBM are described.


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The purpose of this study was to assess the effects of curriculum-based measurement (CBM), with and without diagnostic feedback, on general and special educators' instructional planning in reading. Participants were 19 second-grade teachers with their 309 students without disabilities and 16 resource teachers with their 127 first- through fifth-grade students with mild disabilities. Blocking on background (general vs. special education), teachers were assigned randomly to three conditions: control, CBM, or CBM with diagnostic feedback (CBM+D). CBM data were collected on students for 3 consecutive weeks. Then teachers attended a 2-hour workshop where they completed class-wide and individual student instructional planning sheets in accordance with their experimental condition. For the individual plans, one high-, one average-, and one low-performing student was selected from each teacher's class. On the class-wide plans, across backgrounds, teachers in the CBM+D condition targeted fewer objectives than control teachers. On individual plans, CBM+D resource teachers targeted appropriate skills for average- and low-achieving students more effectively than did CBM and control resource teachers, and CBM+D second-grade teachers targeted appropriate skills for average- and high-achieving target students more effectively than CBM second-grade teachers.

Additional Resources