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One Teacher's Use of Curriculum-Based Measurement: A Changed Opinion

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A teacher who was initially resistant to using curriculum-based measurement provides an account and rationale for her change of opinion.

Abstract. Curriculum-based measurement (CBM) is a well-researched and widely discussed tool for making a variety of key school-based decisions, including eligibility for special services, monitoring students' progress, developing and modifying academic interventions, and evaluating program effectiveness. However, there is little evidence that CBM is being used by significant numbers of teachers or school psychologists. This article presents an overview of CBM and a discussion of the general lack of implementation by practitioners. Six case studies illustrate the transition of one teacher from a skeptical opponent of CBM to a strong advocate, who incorporates CBM into her instructional program for low-skilled readers.

I, Candyce Ihnot, have been a special educator and remedial reading teacher for 16 years. My first experience with curriculum-based measurement (CBM) was about 14 years ago at a large urban intermediate school where, as the newest special education teacher, I was given a book storage room to serve as my classroom. Then the school district's special education administration issued a mandate: All special education teachers were now required to use CBM assessments and graphing three times a week in whatever program they were teaching (reading, math, spelling, or writing).

My first reaction to this new mandate was anger: "My job is teaching. I do not feel I have enough time to do my job well as it is. Why should I take so much time away from teaching to assess and do even more paperwork?" Another reaction was fear of increased accountability. Now, on a weekly basis, I would be producing concrete documentation of the effects of my instruction on hard-to-teach students. There was an expectation that students' CBM graphs would be shared with parents, other teacher colleagues, and even the principal for student decision making. My negative emotional reaction to this new requirement was so strong that I considered quitting my special education position.

However, today, after years of experience with CBM, I have a different reaction. If I had not been forced to use CBM I would never know what I know today, and that is that CBM is very, very valuable. In fact, if they were to say to me, "Candyce, you may no longer use CBM," I would go back to that same closet, gather all my kids back there with a flashlight, and use CBM with them. I just cannot teach without it. That is how much I rely on it, even though it means I have a few minutes less for teaching and a few minutes more of paperwork.

The purposes of our article are to define CBM and to provide illustrations to document its usefulness in everyday classroom contexts.

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CBM: WHAT IS IT?

CBM is an educational tool with a strong research base to support its technical adequacy and educational utility (Allinder & Oats, 1997; Tindal, 1998). CBM was developed from a broad set of academic procedures known as curriculum-based assessment (CBA). Deno (1987) defined CBA as "any approach that uses direct observation and recording of a student's performance in the local school curriculum as a basis for gathering information to make instructional decisions" (p. 41). Interest in CBA grew out of general discontent with established norm-referenced tests (NRTs). The reliability and validity of NRTs have been questioned, as well as the lack of connection with school curriculum and intervention (Deno, 1993; Marston, 1989; Reschly, 1988). CBA has been recognized as a viable alternative to NRTs. Its use has been evidenced in the identification of academic problems (Shinn, 1989), writing individualized education plan objectives (Fuchs & Shinn, 1989), evaluating educational programs (Epps & Tindal, 1987; Tindal, 1989), and monitoring student progress during academic interventions (L. S. Fuchs, 1989; L. S. Fuchs, Fuchs, & Hamlett, 1989).

CBM refers to a specific set of CBA procedures originally created through efforts of the Institute for Research on Learning Disabilities (IRLD) at the University of Minnesota (Deno, 1985). Research goals for the institute included designing a practical and feasible formative evaluation system to guide special educators in instructing their students. Researchers worked to develop a standardized, valid, and reliable set of procedures to analyze student academic growth (Deno, 1993). These standardized procedures set CBM apart from more basic and early forms of CBA. The IRLD succeeded in their quest, and the resulting standardized techniques allow educators to depict student progress graphically and make reliable and valid data-based educational decisions regarding placement, intervention, and evaluation.

Who Knows About CBM?

Information about CBM procedures is readily accessible. CBM research results and practice suggestions are widely presented in professional literature including books (e.g., Howell, Fox, & Morehead, 1993; Idol, 1996; Shapiro, 1996; Shinn, 1989, 1998; Thomas & Grimes, 1995; Tindal, 1998) and journals that are both research focused (e.g., *Exceptional Children, School Psychology Review, School Psychology Quarterly, The Journal of Special Education, Remedial and Special Education, Diagnostique*) and practice focused (e.g., *TEACHING Exceptional Children, Intervention in School and Clinic, Preventing School Failure, Communiqué*). A computer-assisted search of both the Psychological Abstracts Information Services (PsycINFO) and Educational Resources Information Center (ERIC) databases from 1984 to February 1997 using the descriptor "CBM" resulted in 85 citations in PsycINFO and 131 citations in ERIC. A search of conference handbooks revealed that 36 sessions related to CBM have been presented at conference meetings of the Council for Exceptional Children and the National Association of School Psychologist since 1995. Information on CBM is readily available to educators and psychologists.

What Are CBM Procedures?

CBM involves five basic steps (Fuchs, 1987): (a) identifying a student's long-range performance goal, (b) creating a pool of test items from the student's curriculum (or sets of equivalent forms) at the long-range goal level, (c) regularly and frequently measuring pupil performance (on one, constant task at a time, using production responses in a time-limited format), (d) graphing the data, and (e) analyzing results to make instructional decisions. CBM often draws assessment protocols directly from students' daily curriculum. However, research has demonstrated that practitioners need not sample directly from the curriculum; it is sufficient for testing materials to mirror the curriculum in difficulty and content (Fuchs & Deno, 1994). This allows for the use of packaged CBM materials to further reduce time and preparation on the part of teachers.

CBM assessments have been developed for several academic areas (Shinn, 1989). In arithmetic, students complete computation problems for 2 min and the total number of digits correct is calculated. For spelling, the percent of correct letter sequences is computed from a set of randomly selected words administered in a rolling dictation. One word is administered to the student every 10 sec, and correct letter sequences written per minute are analyzed. Writing is assessed by providing students with a story starter and then asking them to write for 3 min. The total number of words, the number of correct word sequences, or the mean length of correct word sequences can be counted (Parker, Tindal, & Hasbrouck, 1991). Oral reading fluency is the standard CBM reading measure (Hasbrouck & Tindal, 1992). The student is

monitored for the number of words read correctly for 1 min on an unpracticed passage from an appropriate level (see Shinn, 1989, 1998, for more detailed descriptions of CBM procedures).

More recently, applications of CBM procedures beyond the basic skills of reading, spelling, writing, and arithmetic have been developed. CBM has now been used to enhance the assessment of content-area instruction at the secondary level, by creating comparable problems for students to solve, designing alternative tasks for students requiring additional instruction, and developing reliable scoring procedures (Tindal, 1998).

Barriers to the Use of CBM

Given the fact that these methods have been found to be a reliable and valid set of techniques, and that their existence has been widely communicated, it is difficult to understand why teachers are not utilizing them more often. The teachers in the Wesson, King, and Deno (1984) study reported that time and training-related concerns were two of the reasons they did not use CBM on a consistent basis. Recent research is identifying additional reasons for the gap often apparent between research and practice, especially research in classroom practices (Allinder & Oats, 1997; D. Fuchs, Fuchs, Harris, & Roberts, 1996; Gersten & Brengelman, 1996; Malouf & Schiller, 1995).

Yell, Deno, and Marston (1992) identified time and logistics as a primary barrier for teachers in the consistent use of CBM. Teachers reported that implementing CBM took away from instructional time, but suggested that ongoing training and assistance would overcome some of the organizational and management issues in implementing CBM. One interesting finding of this study was that both teachers and administrators identified resistance to change as a barrier to the use of CBM in the schools. Sometimes people are simply hesitant to try something new.

Gersten and Brengelman (1996) suggested several components that may ensure sustained use of educational innovations. New ideas need to be concrete, manageable, and fit into the daily lives of students and teachers. Interventions must fit the values and beliefs of the teachers asked to use them. Technical and collegial support is required for teachers as they use innovative interventions. There also must be a clear link between the intervention and student learning.

Carnine (1996) stated that the successful adoption of empirically supported ideas into the classroom depends on the interventions' trustworthiness, usefulness, and accessibility. Malouf and Schiller (1995) criticized researchers' tendency to forget about the "art" of teaching. They suggested that interventions will be embraced by teachers if the procedures focus on short-term outcomes, allow teachers to make intuitive judgments, and leave room for individualism and artistry. In a related study, Allinder and Oats (1997) investigated the effects of treatment acceptability on teachers' use of CBM and found that teachers with a more positive attitude toward CBM implemented procedures with greater fidelity. This suggests that it may be ineffective to simply mandate the use of CBM by teachers; if they are going to implement it effectively they need to believe CBM will serve its promised function and provide them with useful information.

When a student is making progress, the graphs allow the teacher and the student to see it, and parents can be given concrete evidence of their child's success.

Clearly, more research is needed on overcoming barriers to CBM use. The importance of getting effective, empirically supported best-practice procedures and tools into the hands of those practitioners working with our most needy and difficult-to-serve children is of the highest importance. CBM certainly qualifies as a well-proven and valuable tool. How can we encourage its use? We may glean some ideas from looking at the experience of one teacher, Candyce Ihnot, who initially viewed CBM with anger, fear, and skepticism, but later embraced the procedures as one of her most valuable tools.

From Skepticism to Implementation

Ihnot identifies three primary reasons why she eventually came to consider CBM a valuable professional tool for her, and why she now strongly recommends its use to other educators. The first reason is that the graphed results provide a powerful communication tool. When a student is making progress, the graphs allow the teacher and the student to see it, and parents can be given concrete evidence of their child's success. A second reason to use CBM is that, when students are not making progress, the teacher learns this immediately. Negative performance trends can be spotted and watched. An instructional change may not be implemented immediately, but the teacher can take note of a student who may be demonstrating a leveling off or downturn in performance and be ready with an intervention if the pattern continues. This immediate feedback also allows the teacher to manage instructional time more effi-

ciently. The teacher can use CBM data to decide with confidence to spend a bit less time with one student making good progress and give more effort to the struggling student. The third reason CBM is valuable to a teacher is that he or she can see quickly if an intervention, or change in a student's instructional program, is having a positive effect and, if it is not, to make a modification in the plan.

These three reasons outweigh the relatively minor "cost" in time and paperwork. These three reasons also fit in with conclusions reached by Gersten and Brengelman (1996). They found that sustained use of educational innovations are ensured when the innovations are concrete, manageable, and fit into the daily lives of teachers and students.

Ihnot readily admits that another reason she changed her opinion about the utility of CBM was the amount of guidance and support available to her and her colleagues during the early phase of the implementation. The district mandate to use CBM in her program was accompanied by training and monitoring of the implementation, which helped teachers learn accurate and efficient ways to use CBM. Teachers were also provided time to share their experiences with their peers, and through this process, heard some success stories and learned ideas for how to make some of the more cumbersome or confusing parts of the process work in their own classrooms. These resources made incorporating CBM procedures into daily practice feasible, and helped ensure a successful implementation. This confirms the research-to-practice literature that implementation of innovations is enhanced by providing training along with continued technical and collegial support (Gersten & Brengelman, 1996; Yell, Deno, & Marston, 1992). This strong support for implementation may have counteracted any negative repercussions of having the CBM project mandated to the teaching staff in a top-down manner by district fiat, rather than a collaboratively derived decision (Allinder & Oats, 1997).

SIX CASE STUDIES OF CBM IN READING

Context

Candyce Ihnot continues to use CBM in her current position. She now teaches in an urban primary school that serves approximately 650 students from kindergarten to Grade 3. About 150 of these students are in English as a second language (ESL; primarily Hmong, from Laos), and another 90 to 100 are eligible for special services based on low performance (below the 40th percentile) on the spring administration of a standardized achievement test. Approximately 30 of these low-performing students are served in special education and the remainder in the remedial reading program, funded by state and local monies.

For the past 11 years, this school has used a collaborative inclusion model for students with special needs. ESL, special education, and Title I/remedial reading teachers go into the classrooms and work there with the identified students rather than employing a pull-out system. This model allows for close working relationships between the specialists and the general education teachers. The school uses a Joplin plan for organizing reading instruction: Students are homogeneously grouped across classrooms according to their instructional needs.

CBM has been used at this school for the past 11 years as one key source of information used to accomplish grouping of students at the beginning of the year. In the fall, all students are assessed three times on unpracticed grade-level passages. The median score is used as the student's beginning score. In the spring, all students are again assessed on an unpracticed passage. These results are used to determine if the students are benefitting from the school's reading program (all students in general, by grade level, and as individuals). Students identified as being "at risk of reading failure" (including all special education, ESL, and Title I/remedial students) are assessed weekly using CBM measures and individual graphs are kept of their performance.

CBM data only tells a teacher that a student's pattern of progress is or is not acceptable. It does not pinpoint the cause of the problem. A teacher must use other sources of information to determine what actions she must take to help a student improve their reading skills. These data can come from informal classroom observations, contact with home to see if there is anything going on there that may be affecting a student's school performance, conferences with other school personnel, or other sources.

Common, informal interventions that Ihnot has used in her classroom include procedures as simple as having students change their seat assignment when they are distracted by a classroom peer, noting illness patterns and discussing this with a child's parents, and speaking individually to students to make them more aware of their efforts and encouraging them to work harder. At times, more formal interventions are required, such as creating an individually designed homework packets to increase practice time, assigning an instructional assistant or paraprofessional to work individually with a student for 5 to 10 min daily on focused practice of a targeted skill, or making scheduling changes so that the teacher herself

can spend an extra 5 min with a student to preview or review a lesson.

Procedures Used for CBM Monitoring

Students in this school are usually monitored in materials one level above their current instructional level so that a yearly goal can be set and progress toward that goal can be monitored across the 9 months of school. Title I/remedial students are expected to gain two words correct per minute (wcpm) each week; special education students should gain 1.5 wcpm each week. This corresponds reasonably with finding by L. S. Fuchs, Fuchs, Hamlett, Walz, and Germann (1993), who found that, on average, students in first grade can be expected to gain two words correct per week in oral reading fluency whereas "ambitious goals" for first graders would be gains of three words per week. Goals identified for second graders were 1.5 words gained per week, with an ambitious goal of 2.0 words gained per week, whereas a goal of either 1.0 or 1.5 words gained per week was deemed reasonable for students in Grade 3.

Although students at this school served in the Title I/remedial and special education programs receive weekly CBM assessments, originally all students in special programs were assessed three times per week. The teachers complained that this was taking too much time away from instruction. Some research by teachers indicated that very similar results were obtained with these less frequent assessments when the median score of the past 3 weeks is used to graph the results. Each week the teachers record the student's newest score. The highest and lowest scores from the past 3 weeks are ignored and only the middle, or median, score is graphed. This process is called the "moving median" and has been shown to reliably measure students' actual performance over time. It allows for the natural fluctuation and variability in performance that can be caused by illness, inattention, lack of interest or experience with the vocabulary in a particular passage, and so on. Although the moving median has been criticized as a crude hand-smoothing technique, the median score represents an actual performance score, unlike the mean. Over the long run, it accounts for normal fluctuation in children's reading.

"Aimlines" are drawn on each student's graph to indicate a reasonable pattern of expected growth for the school year, based on their baseline performance (the median score from three separate assessments) in the fall and the projected increase of words per week. The aimline is simply a line connecting the original score and the goal score at the end of a specified period of time, calculated from information such as that presented in the L. S. Fuchs et al. (1993) study. Each week the teacher plots a student's CBM performance score on that student's individual graph. At times, an aimline may be redrawn if the original goal is determined to be too ambitious or too lenient.

CBM graphs are used by Ihnot and her colleagues to guide instructional decision making. If a student's score falls below the plotted aimline for 3 consecutive weeks, indicating less-than-expected progress, school policy mandates that the teacher implement an intervention. When an intervention is implemented a vertical line is drawn on the graph to indicate that there had been a change in the student's program. An intervention stays in place for 3 weeks to determine if it is having a positive effect on the student's performance. If the effect is positive, the intervention remains in place; if there is no effect, another program change must be made, and another vertical line drawn. If this pattern of little or no growth continues for several weeks, a referral for special services (for Title I/remedial or special education) may be made. CBM graphs are also used to keep students informed of their progress (or lack of progress), and to show to parents during conferences.

The CBM graphs of six students were selected to demonstrate the variety of concerns and interventions that can be addressed using CBM for teacher decision making. All of these six students were first, second, or third graders and were served by Candyce Ihnot in either a special education or Title I remedial program.

Case 1: Jeff

Jeff (Figure 1) was a second grader reading about 1 year below grade level. He was being monitored for CBM assessments in second-grade materials because his instructional goal was to be reading at grade level by the end of the year. Jeff's graph shows that he started the year reading only 46 wcpm, which puts him below the 50th percentile for second-grade readers (Hasbrouck & Tindal, 1992). An ambitious goal (L. S. Fuchs et al., 1993) was set for Jeff, to improve his reading by 2 wcpm each week, across 25 weeks of instruction. An aimline was then drawn on Jeff's graph, from his initial score of 46 wcpm to his ending goal score of 96 wcpm (25 weeks of instruction × 2 words per week = an overall gain of 50 wcpm. 46 wcpm + 50 wcpm = 96 wcpm).

Jeff demonstrated very good progress in the first few weeks in his reading program. His initial progress surpassed that of the other students in his reading group, but when his CBM graph indicated that his progress had leveled off around the 4th week of school, Ihnot and Jeff's classroom teacher decided to move Jeff to a higher reading group (Intervention Line A). A vertical line was drawn on Jeff's graph to document this pro-

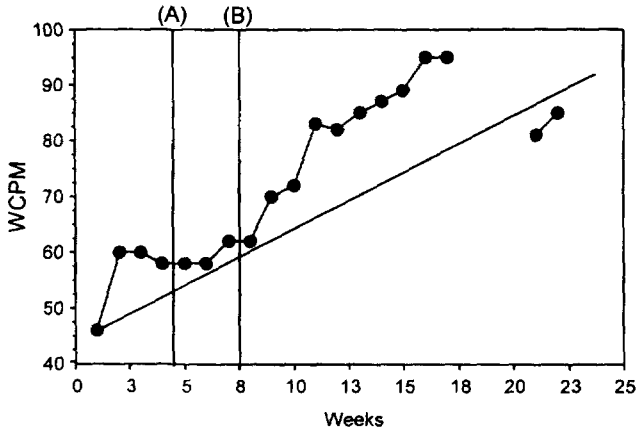

FIGURE 1 CBM graph for Case 1: Jeff.

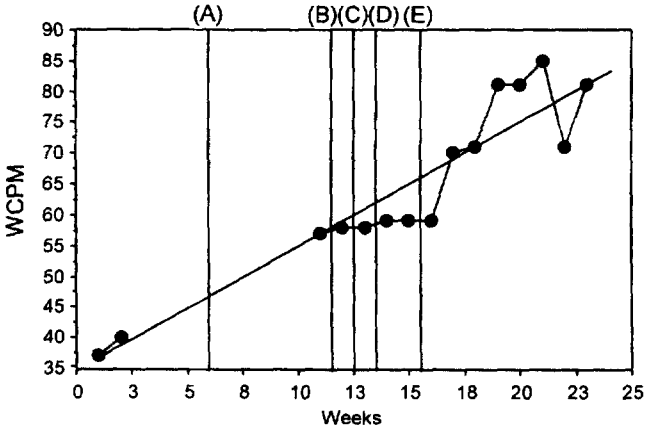

FIGURE 2 CBM graph for Case 2: Marlene.

gram change. This intervention made little difference in his weekly CBM scores. Based on their knowledge of Jeff as a student, along with the CBM data, the teachers again decided to make a program change 4 weeks later to help Jeff reach his goal of reading on grade level by the end of the year. This time the difficulty of the materials in which Jeff was working was increased (Intervention Line B). This seemed to do the trick; Jeff's scores started climbing again. In the spring, Jeff missed several days of school due to illness. The graph was left blank for the period in which he missed his CBM assessments (Weeks 18–20). On his return, there was an initial decline in Jeff's performance from the point where he left, but upward growth was seen again by the 2nd week after his return.

Case 2: Marlene

Marlene (see Figure 2) was a third grader who had been identified with learning disabilities. However, her teachers believed that Marlene's problems were caused primarily by her frequent and extended absences. Marlene's CBM graph documented serious attendance problems. She was frequently absent on the day of the week designated for the CBM monitoring, so she was often tested on a different day. Although her sporadic scores showed that Marlene was on track according to her aimline for the first 12 weeks, both teachers believed that she could be doing even better. Their hypothesis was that her poor attendance was the key factor, but they tried some school-based interventions anyway, including raising the difficulty level of the materials and increasing her instructional performance goal. Marlene's graph documents a total of four different interventions (Intervention Lines A–D) implemented with little effect. Finally, the school's social worker was alerted and a truancy letter was sent to the student's home (Intervention Line E). At that point, Marlene's attendance improved and her reading scores began a steady increase. The CBM graph was then used at a parent conference as evidence to Marlene's parents that regular school attendance was truly important and clearly made a real difference in their daughter's reading. Marlene's graph shows a decline in the spring, which is common among the population of students with whom Ihnot works.

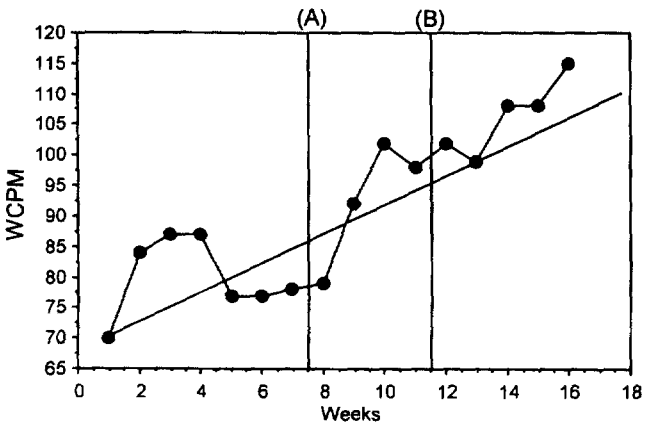

FIGURE 3 CBM graph for Case 3: Mary.

Case 3: Mary

Mary (see Figure 3), a second-grade student, initially made excellent progress with her reading, exceeding her teachers' expectations. At Week 5, Mary's performance fell off quite dramatically and showed no improvement for a month. After the 3rd week of no gains, the teachers decided to move Mary to a higher level of materials (Intervention Line A). This seemed to work, and Mary again began to show steady progress. The teachers were satisfied that this intervention had made the difference.

A few weeks later, Mary's father came to a parent conference (documented with Intervention Line B). CBM graphs are always reviewed during parent–teacher conferences, so the teachers brought out Mary's reading graph to show to her father. The earlier 1-month slump in his daughter's reading was pointed out, and the teachers discussed how that had been turned around after Mary's program was changed. Mary's father examined the graph carefully, then quietly informed the teachers that this dramatic dip in Mary's performance coincided exactly with the time when her mother unexpectedly left the family. The teachers saw this as evidence that, although most often a student's performance is directly related to school-based activities and events, the influence of home is also very powerful. In this case, the improvement in Mary's reading following the intervention may indeed have been influenced by the program changes, or may have simply reflected her adjustment to her new situation at home. Both teachers were impressed at the sensitivity of this simple measure to capture the effects of such an important occurrence in this child's life, and they began to include this new awareness in their interpretations of CBM graphs.

Both teachers were impressed at the sensitivity of this simple measure to capture the effects of such an important occurrence in this child's life.

Case 4: Michael

Michael (see Figure 4) was a second grader in Ihnot's Title I program who received daily instruction in first-grade materials. At the start of the year, Michael was showing steady progress that exactly matched his aimline until suddenly he made a large gain in performance at Week 8. Neither of Michael's teachers could account for this instructionally, and hypothesized that this jump may have simply been a developmentally related event. Wanting to capitalize on this improvement, Michael's teachers raised the possibility with him about moving to a higher reading group because he was now reading so well. Michael was not enthusiastic but agreed, with reluctance, to give it a try (Intervention Line A). The graph shows that this move was not beneficial to Michael, so he was returned to his original group and again started to show positive gains (Intervention Line B). Michael's teachers believe that he was simply more comfortable in a situation in which he was a top performer, and both are convinced that without the CBM data they would have been inclined to have left Michael in the higher group and spent the remainder of the year just encouraging him to try harder.

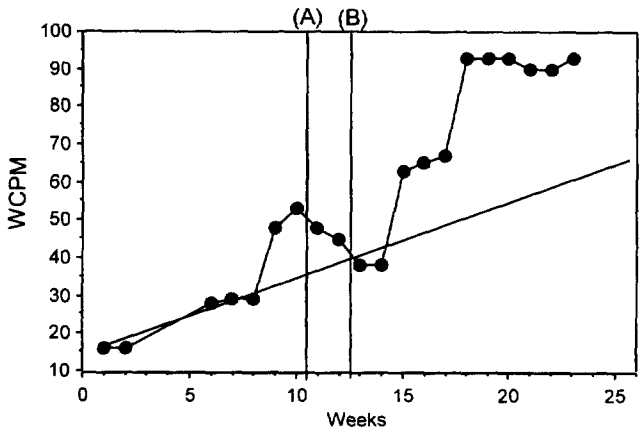

FIGURE 4 CBM graph for Case 4: Michael.

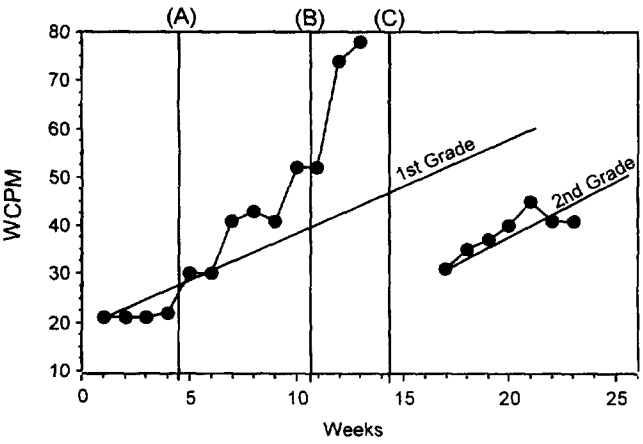

FIGURE 5 CBM graph for Case 5: Lisa.

Case 5: Lisa

Lisa (see Figure 5) was a second-grade child who was reading so poorly at the start of the year (less than 10 wcpm) that she could not be timed in second-grade materials. Her CBM timings were conducted using first-grade-level reading material. Her teachers began to consider making a referral to special education. Lisa showed little progress on her graph, so an instructional change was made. She was placed in a fluency building program (a combination of reading along with an audiotape of the story, repeated readings, and daily progress monitoring with a performance graph; Intervention Line A) and made immediate gains. Her teachers

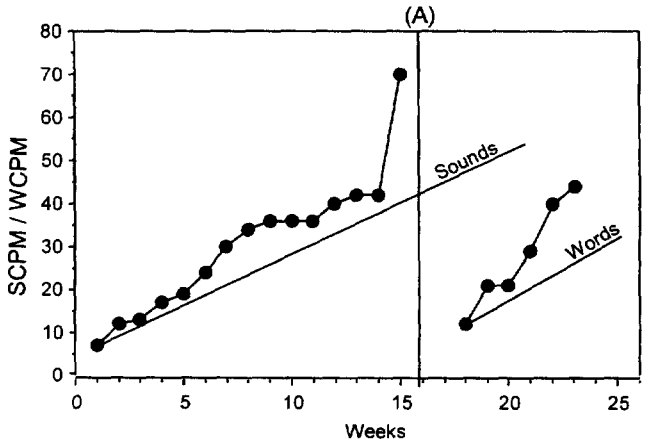

FIGURE 6 CBM graph for Case 6: Wendy.

wanted to ensure that Lisa was making progress compared to her grade-level peers, so at Week 14 they changed the level of monitoring materials to second grade (Intervention Line C). To indicate this change on the graph, a new performance baseline was established and a new aimline drawn. Lisa's progress in this harder level continued, although at a lower level and slower rate, and she was able to continue without a referral to special education.

Case 6: Wendy

Wendy's graph (see Figure 6) is an example of how Ihnot used CBM procedures with first-grade students. Because most first graders are not reading fluently at the beginning of the school year, early progress in reading can be measured with weekly assessments of their ability to identify the sounds of letters. Some programs use letter names for first-grade CBM assessment, but because the focus of this school's program for first graders focused on phonics and phonemic awareness, the teachers believed that a better match between instruction and assessment was knowledge of letter sounds.

Wendy was placed in the reading readiness program and her graphs showed steady progress on naming her letter sounds. By March, Wendy's CBM performance indicated that she would now likely be successful in reading, so her graph was marked to indicate a change in assessment that measured oral reading fluency or the wcpm (Intervention Line A). Wendy started this new graph with 3 days of baseline data, and then a two-word per week aimline was drawn.

CONCLUSION

A large body of evidence has established the psychometric strength of CBM and its potential value to improving the instruction of low-performing students. Unfortunately, we have little evidence that teachers or school psychologists are using this powerful tool. This article provides documentation of the transformation of one teacher from an angry and reluctant user of CBM who initially felt forced to incorporate this new procedure into her practice, to one who enthusiastically embraces CBM, uses it daily as part of her normal instructional routine, and goes so far as to say "I cannot teach without it."

Candyce Ihnot targeted several reasons for her own personal changed opinion. Her mandated incorporation of CBM into her classroom routines demonstrated to her that (a) immediate, accurate, and concrete positive feedback is provided to teachers, students, and parents when students are experiencing gains; (b) rapid identification of negative performance trends allows a teacher to quickly make responsive changes in students' program; and (c) graphed results can be used to judge whether or not an intervention made in a student's program is having the desired effect, and respond accordingly. Ihnot also recognized the role that the additional support provided to the teachers in her building from the district had in creating a positive outcome in the implementation of CBM. The training was thorough and of high quality, and support from experts as well as colleagues was provided to the teachers was they began using these new and unfamiliar tools.

All these points support the theories of researchers examining the gap between research and practice, that interventions must be concrete, manageable, flexible, easily incorporated into existing routines, clearly linked to student learning, and that there must be adequate technical and peer support for new practices (Carnine, 1996; Gersten & Brengelman, 1996; Malouf & Schiller, 1995). These results give hope to the findings of Allinder and Oats (1997) that the teachers with the most positive attitude toward CBM did the best job of implementing the procedures. This teacher's experience shows that with adequate support, a teacher's opinion may become more positive even during the implementation.

It is our hope that this one teacher's experience and the six illustrative case studies can help teachers and school psychologists find a way to consider adding CBM to their repertoire of effective and valuable professional tools.

ACKNOWLEDGMENTS

Several products are available that greatly facilitate a teacher's use of CBM. Lynn Fuchs, Carol Hamlett, and Douglas Fuchs from Vanderbilt University have developed software that teachers can use to test and graph stu-

dents' progress using CBM measures in reading, math, and spelling. "Monitoring Basic Skills Progress" is available from PRO-ED Publishers (1–800–897–3202; http://www.proedinc.com).

Douglas Marston and colleagues at Children's Educational Services, Inc. have created "Standard Reading Passages: Measures for Screening and Progress Monitoring" that can be used to implement CBM progress monitoring for children reading from first- through sixth-grade levels. A set of 18 equivalent passages at four difficulty levels are available from CES, 16526 West 78th Street, Suite 162, Eden Prairie, MN 55346–4358 or http://www.readingprogress.com.

Finally, sets of audiotapes and equivalent passages designed for providing intervention and remediation for students with poor reading fluency have been developed at 0.8 through 7.0 grade levels. The 24 passages at each level can also be used for monitoring students' progress using CBM procedures. These materials are available from Read Naturally, 2329 Kressin Avenue, St. Paul, MN 55120; 1–800–788–4085 or READNAT@aol.com

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