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Using Curriculum-Derived Progress Monitoring Data as Part of a Response-to-Intervention Strategy: A Case Study

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The revised *Individuals with Disabilities Improvement Education Act* (2004) and subsequent Federal Regulations promote the use of alternative process of identifying students with specific learning disabilities based on how well a student responds to researched-based interventions. As these strategies are implemented, school psychologists have the opportunity to expand their roles and to assume leadership positions in implementing a response-to-intervention (RtI) model. A central element of all RtI approaches is the universal monitoring of students' academic progress. As part of a general effort to implement a data-driven system, multiple sources of information may be used. This article contributes to these efforts by presenting a case study demonstrating how a school psychologist took the first steps to implement a low-cost, continuous progress monitoring procedure in one urban school. This was accomplished by using data readily available at the school site (reading probes included with the district reading curriculum) to develop a systematic way to monitor progress by creating local school norms and using existing reading benchmarks.

Every year school psychologists in the U.S. conduct approximately 816,000 initial evaluations as part of the process to determine eligibility for special education for students suspected of having a specific learning disability (Federal Register, 2005). This would not be surprising to most school psychologists, because assessing students for special education is one of their primary job duties. School psychologists report that typically half of their day is spent on tasks related to individual assessment, such as administering intelligence tests (Reschly & Ysseldyke, 2002). For over 25 years, since the passage of the *Education for All Handicapped Children Act of 1975* (P.L. 94-142), school psychologists have been key participants in the multidisciplinary teams that identify students with learning disabilities, primarily using a model based on finding a discrepancy between IQ and achievement (Fuchs, Mock, Morgan, & Young, 2003; Lyon et al., 2001; Vaughn & Fuchs, 2003). However, due to recent changes in federal law, school psychologists may no longer use as much of their time administering intelligence tests. On December 3, 2004 the *Individuals with Disabilities Education Improvement Act* (IDEIA) was signed into law as Public Law 108-446. The new law allows alternative procedures for evaluating students suspected of having Specific Learning Disabilities. States are no longer required to use a discrepancy between intellectual abilities and achievement as part of the LD eligibility process. States now "…must permit a process that examines whether the child responds to scientific, research-based interventions as part of the evaluation procedures" (Federal Register, p. 35802).

This change in federal law was expected. For the past few years several influential groups such as the National Association of School Psychologists, the Office of Special Education Program in the U.S. Department of Education, and the National Center of Learning Disabilities have expressed concerns about the continued use of an IQ-Achievement discrepancy model for diagnosing learning disabilities, and instead have proposed a model that is known as response-to-intervention (RtI; Fuchs et al., 2003; Jimerson, Burns, & VanDerHeyden, in press; Lyon et al., 2001). With the recent release of the new Federal Regulations, school psychologists and other educators now await guidance from their educational agencies on the practical questions regarding how RtI will be implemented at state and local

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levels. Of added interest is how the implementation of RtI approaches will affect the future expectations and practices of school psychologists and the individual education assessment planning process. In looking at school districts that have been at the forefront of embracing RtI, some trends are emerging. In both the Iowa Heartland Area Education Agency and the Minneapolis Public Schools, the amount of time school psychologists spend assessing students for special education eligibility declined significantly, while the amount of time school psychologists spent in consultation increased dramatically (Shinn, 2002). At the same time, due to the expanded range of services provided by school psychologists, the number of psychologist employed by Hartland Educational Agency in Iowa increased dramatically in the past 15 years (from 32 to 60; Allison & Upah, 2006). The Office of Special Education and Rehabilitative Services (OSERS) has anticipated that the role of school psychologists may change and that fewer school psychologists may be needed (Federal Register, 2005). OSERS, in explaining the proposed regulations for IDEA 2004, notes although the cost of documenting continuously the academic progress of students as part of an RtI approach might be more costly than previous assessment practices, "These costs are likely to be offset by reduced need for psychologists to administer intellectual assessments. To the extent that small districts may not employ school psychologists, the proposed criteria may alleviate testing burdens felt disproportionately by small districts under an IQ discrepancy evaluation model" (Federal Register, 2005, pp. 35823-35824). As RtI strategies are implemented in the coming years, different assessments of whether this will increase or decrease demand for school psychologists have been offered. However, it is certain that if school psychologists do not seek ways to contribute to RtI initiatives, they may be left out of district plans. As federal regulations are operationalized and as state and local educational agencies begin to adopt specific criteria, all educators, including school psychologists, will need to increase their knowledge of RtI. Movement in this direction has already started with a recent survey indicating that 54% of school psychologists were currently using some form curriculum-based assessments (CBA) to evaluate academic progress on a daily basis (Shapiro, Angello, & Eckert, 2004). Efforts to infuse CBA universal assessment into all schools will require a range of viable options that consider the resources available and costs to district large and small, and school psychologists can enhance these efforts.

As part of the broader RtI initiative, school psychologists can serve a primary role in RtI by becoming more involved in collecting, analyzing, and using data to monitor student progress, what has been called universal assessment and continuous progress monitoring (Deno, 2002; Fuchs, 2004). The objective of the present article is to present current research in assessing and monitoring reading skills and then to present a case study of how one school psychologist (the first author) took the first steps in creating a universal reading assessment process at an elementary school to identify and track students who were experiencing reading difficulties. This case study demonstrates how the school used reading probes, developed by the Sacramento County Office of Education (2003) to assess the skills taught in the *Open Court*, 2000 Reading series. These probes were already being as part of the existing reading curriculum to implement a low-cost strategy to provide universal reading screening information to support pre-referral screening and intervention planning by the school's student support team. Although the definition of a specific learning disability in IDEA includes other academic areas such as mathematics calculation and written expression, reading was chosen as the first academic area to monitor. Hence, this case study is not offered as providing a complete approach to universal academic screening and continuous progress monitoring, but offers one low-cost option, which if used, would allow a school to allocate other available resources to support the universal assessment of math and written expression, and to support the implementation of research-supported academic intervention, or both.

Although improving the reading competence of school children in America has long been a concern, two recently passed federal laws have emphasized now more than ever the need to effectively track the progress of all students to ensure that every student can read at grade level. The *No Child Left Behind Act of 2002* (NCLB) mandates that all public school students will be proficient in reading by 2014 or their schools will face financial sanctions. Unfortunately, from 25-40% of children do "…not read quickly well enough, quickly enough, or easily enough to ensure comprehension in their content courses in middle and secondary school" (Snow, Burns, & Griffin, 1998, p. 98). In a national assessment of reading in 2002 by the National Assessment of Educational Progress approximately 40% of fourth graders were rated in the "nonfluent" range in oral reading. These struggling readers, as compared to the fluent readers, were more likely to read fewer words accurately, to read at a slower pace, and to have scored lower in reading comprehension (Dane, Campbell, Grigg, Goodmann, & Oranje, 2005).

For schools to adopt alternative procedures for identifying students with learning disabilities, and in order to ensure that all students can read at a proficient level, schools need to proactively identify children who are the poorest readers, especially at the elementary school level because children who are not reading at grade level in early elementary school are likely to fall further and further behind compared to their higher-achieving classmates as they advance toward secondary school. Stanovich (1986) described this phenomenon as the "Mathew Effect" (from a Biblical verse in the Gospel of Mathew were the rich-get-richer). He noted that students who are poor readers read less frequently so they do not practice reading as many words and are not exposed to as much vocabulary. One consequence of this is that they progress at a much slower rate; whereas, in contrast, "early achievement spawns faster rates of subsequent achievement" (Stanovich, 1986, p. 381). Good, Simmons, and Smith (1998) documented just how dire the situation is for the lowest achieving readers. Students who are poor readers early in their school careers progress academically, however, they do so at a slower rate. The difference is not so apparent in first grade, but by second grade the lowest performing readers are reading at only half the rate of the average second grader. To progress to the level of an average reader, it is no longer enough for the poor reader to progress at the same rate as the average reader, they must accelerate the growth of their reading skill, but, of course, the fact that they practice reading less often makes this extremely unlikely. A low achieving second grader must increase his or her reading rate two times as much as the average reader in to "catch up." In a longitudinal study of students who were tracked from first through fourth grade, Juel (1988) found that first graders who were poor readers and without intervention had an 88% probability of staying poor readers at the end of fourth grade. By way of comparison, poor readers at the end of fourth grade were only able to read as well as the good readers did at the beginning of second grade.

Even when students receive support services, their rate of improvement often continues to lag behind. In a study of students with a learning disability and their general education counterparts on a curriculum-based measurement of reading, it was found that the first grade general education students were able to increase their reading speed by an average of two words per minute each week, whereas the students with LD in special education had a highest rate of growth of only 0.83 words per minute. Although the growth rate of both groups of students slowed in the later grades, the progress of the students with LD never approached the level of the students in general education (Deno, Fuchs, Martson, & Shin, 2001).

Educators agree that the lowest performing students in reading need to be identified, and identified early. However, few schools have systematic ways to screen all students experiencing reading difficulties including those with unidentified learning disabilities. One of the most common ways is

through teacher referrals, which might leave some at-risk students from being identified. Shinn, Tindal, and Spira (1997), for example, found that although teachers were generally accurate in referring students who were primarily low achieving readers, they referred a greater percentage of male students as well as African-American students then their proportion in the population of struggling readers. As different teachers in each school and district each year have a different range of students with varying academic abilities and behaviors, which students will receive priority for an evaluation tends to change from year to year. "Teacher referrals may well reflect the reaction to a constellation of student behaviors or characteristics, only some of which are obviously related to the reason for referral (Shinn et al., 1987, p. 38). Additionally, Gerber (2005) points out external factors that can affect teachers' decisions on what educational progress is acceptable in a classroom. These factors can include litigious or persuasive parents, pressure from school administrators, or school policies that oblige teachers to give priority to certain categories of students such as those from low socioeconomic background or English language learners.

To ensure that all struggling students are identified and helped, the National Association of School Psychologists (NASP) and others recommend a systematic three-tiered approach to identify and help students who are not performing at grade level when students are first experiencing difficulties (NASP, 2003). Tier 1 involves "high quality instructional and behavioral supports for all students in general education" (NASP, 2003, p. 2). Students in general education should be assessed and data collected to identify the lowest performing students in order for those students to receive modified instructions and further interventions. When students are found not to be progressing at an adequate rate and are continuing to fall behind, as measured by curriculum-based assessments, students then begin more intensive intervention. Tier 2, which is defined by NASP as: "Targeted intensive prevention or remediation services for students whose performance and rate of progress lag behind the norm for their grade and educational setting" (NASP, 2003, p. 3). The last stage, Tier 3, involves a comprehensive evaluation in order to evaluate a student for possible special education and individualized educational planning.

To identify and track the lowest performing students both at the Tier 1 and Tier 2, NASP strongly emphasizes data collection by using curriculum-based measurement (CBM), declaring, "Ongoing, curriculum-based assessment of basic literacy skills in an essential component of high quality instruction" (NASP, 2003, p. 3). Although Curriculum-Based Assessment (CBA) is any informal method that teachers use to assess students' academic assessment in the local curriculum, CBM is a standardized performance measure (Shinn, 1988). Shinn and Bamonto (1998) define CBM as "a set of standard simple, short-duration fluency measures of reading, spelling, written expression, and mathematics computation" (p. 1), which allow frequent measuring and monitoring of a student's performance. In establishing the requisites of CBM, Deno (1985, p. 221) proposed four criteria that would have to be met: (a) it would provide teachers a "reliable and valid way" of assessing student achievement, (b) it would be "simple and efficient" to use, (c) the procedure and results would be "easily understood," and (d) it would be "inexpensive." CBM can be very useful in tracking an individual's performance and growth in basic academic skills, but it is often used as a peer-referenced tool in order to compare a student's performance to their classmates and schoolmates. CBM is useful to school personnel because it can "identify discrepancies in performance levels between individuals and peer groups, which helps inform decisions about the need for special services or the point at which decertification and reintegration of students with disabilities might occur" (Deno et al., 2001, p. 507).

One of the most common procedures in CBM for measuring reading achievement is by testing oral reading fluency (ORF). Most commonly, ORF is measured by having students read aloud a grade level passage for one minute, and then counting the total number of words read correctly (for precise

procedures see Shinn, 1989, p. 239). Reading fluency can be defined as the ability to read accurately with good speed and expression. When a child reads at a slow, laborious, and inefficient pace, it will be very hard for a child to construct meaning from text. The struggling reader spends most of his or her cognitive resources on decoding and, as a result, has fewer resources left to comprehend text. This contrasts to a fluent reader who has "become automatic at word recognition task. Because the cognitive demands for word recognition are so small while the word recognition process is occurring, there are sufficient cognitive resources available for grouping of words in to syntactic units and for understanding or interpreting the text" (National Institute of Child Health and Human Development, 2000, p. 3-8).

Studies have repeatedly shown ORF to be a strong indicator not only of word recognition skill, but reading comprehension as well. For example, Fuchs, Fuchs, and Maxwell (1988) found the average number of words read correctly per minute on an oral fluency test had the highest correlations (mean of 0.89) to the *Stanford Achievement Reading Comprehension* and *Word Study Skills* as compared to the other measures of reading comprehension including written cloze, answering comprehension questions, and oral recall. Marston (1989) summarized several studies on reading fluency and reported that the correlations between the rate of reading on brief ORF measures and performance on published norm-referenced achievement tests range from 0.63 to 0.90.

Although ORF has been shown to be a valid indicator of reading competence, it is frequently not used in schools. Fuchs, Fuchs, Hosp, and Jenkins (2001), examined reading measures published in the last 80 years. Before 1960, 10% of tests measured oral fluency, whereas another 10% measured fluency in another form. From 1990 to 1999 only 6% of tests measured at least one type of reading fluency, whereas none specifically measured oral fluency. This has occurred despite a report finding that 44% of American fourth graders were not fluent readers when asked to read grade-level passages (Pinnell et al., 1995). The report, *Preventing Reading Difficulties in Young Children* (Snow et al., 1998) by the National Research Council, which was a consensus document prepared by experts in reading research states that, "Because the ability to obtain meaning from print depends so strongly on the development of word recognition accuracy and reading fluency, both of the latter should be regularly assessed in the classroom, permitting timely and effective instructional response where difficulty or delay is apparent" (p. 323). As the National Research Council's report recommends, all schools need to find cost-efficient ways to monitor student reading fluency. Further, since one strategy or model is unlikely to be appropriate for all schools and available strategies must take into consideration cost effectiveness, descriptions of various strategies are needed.

When local norms are developed for CBM, it can help a practitioner obtain and disseminate information about not only how a student's academic level compares to his or her peers at various times throughout the school year, but also how much growth the student is making compared to his or her class and school peers. Shinn (1989) points out that, "…the development of local norms is integral to the establishment of CBM screening and eligibility procedures as they operationalize the expectations of the mainstream environment" (p. 94). During a parent conference, a teacher telling a parent that her third-grade daughter reads 30 words per minute and is not meeting grade level standards is not very informative. When local norms are developed, a teacher is able to tell a mother, for example, that, compared to other third graders at the school, 97 out of every 100 are more fluent readers and her child urgently needs intervention services in order to be able to catch up to her peers. Local norms are also desirable when the school population is comprised of many culturally and linguistically diverse students because local norms give schools the capacity to compare a student at the school with other students from similar backgrounds (Kamphaus & Lozano, 1984). For example, in a school with scarce

resources composed primarily of students who are reading below grade level, local norms allow a school to identify, monitor, and provide extra services for the absolute lowest students. Additionally, the lowest students can receive priority for psychoeducational assessments to evaluate special education needs. For example, instead of assessing all students who are below grade level and referred for an assessment, a school psychologist and the student study team (SST) using local norms have other options. They can, for example, explain to teachers, administrators, and parents at a pre-referral meeting that the student, while reading below grade level, is reading better than 40% of their peers at the school and is continuing to advance in reading. In such a situation, it may be possible to accommodate the student's needs in the general education classroom, to better advocate for enhance resources for the school, or both.

A procedure to create local CBM norms was suggested by Shinn (1988, 1989), who emphasized its use as a cost- and time-effective method of assessing students for special education related decisions. The major tasks involve: "(a) creating a 'measurement net', a representative sample of each grade-level curricula materials for each grade level to be tested; (b) establishing a normative sampling plan; (c) training data collectors; (d) collecting the data; and (e) summarizing the data" (Shinn, 1998, p. 64). Although in the past, collecting and summarizing the data were tedious projects, with the widespread use of computers and statistical computer programs, developing local norms is far easier and can be done relatively quickly. Nonetheless, CBM has been available for a number of years and its use has not been rapidly and widely adopted. Even with the reauthorization of IDEA in 2004, the "rolling out" of RtI, with CBM as part of this broader initiative has faced a number of challenges. Despite claims by Shinn (1988) that CBM is easy and inexpensive to implement, he has developed a commercial computerized resource that schools can purchase to implement CBM assessment. Such strategies provide one option for school; however, other options are needed, particularly ones that draw on a school's current educational practices and do not depend heavily on capital resources. The next section presents a case study of how a school psychologist at an inner city, urban school used its existing resources to systematically monitor student reading progress.

ELEMENTARY SCHOOL CASE STUDY

School Context

An important component of RtI approaches is to monitor students' academic progress throughout the school year. This example demonstrates how a school psychologist at an urban elementary school implemented a process to collect data and to monitor the reading performance of students at the school using ORF probes. This is offered as a strategy to integrate academic progress data that are already being collected by teachers into a broader RtI strategy. Identifying the lowest performing students at this school was especially challenging because the vast majority of students were not reading on grade level. The average (mean) total reading score for students at this school on the annual *California Achievement Test* (CAT-6) given in the Spring of 2003 varied from the 27th percentile in second grade to the 16th percentile in fourth grade. Although the majority of the students needed help, due to scarce resources, it was essential to identify those who were the lowest readers and who were continuing to make limited progress so that they could then receive priority for Tier 2 intervention services.

School Description

The case study, in which the first author was the school psychologist, involved a pre-Kindergarten through fifth grade elementary school with approximately 1,000 students situated in an urban area of

Los Angeles. The students attended school on a year-round basis with students were assigned to one of three alternating tracks—students attended school for four months and were on vacation for two months. Students attended 163 days per school year and each day was extended 30 minutes more each day to compensate for attending school for 17 fewer days. The school population was 99% Hispanic, 73% of students were classified as English Language Learners, and 95% of the student population was eligible for free or price-reduced lunch.

Only the scores of first graders in the last semester of first grade through fifth were used in this study because the ORF probes were only administered in those grades. The numbers of students assessed in each grade varied throughout the year due to illnesses or students exiting or entering the school throughout the year. Participants in the first fluency probe given in each grade numbered 164 in first grade, 163 in second grade, 179 in third grade, 162 in fourth grade, and 153 in fifth grade. Special education students in the Resource Specialist Program were administered the fluency probes, but students in special education who were placed in Special Day Classes were excluded from participating.

Steps Taken to Implement CBM Assessment

Step 1: Using what is readily available. An efficient way for school psychologists and their SSTs to begin implementing Tier 1 of RtI is to use data that are already being collected at the school site, if available. For school psychologists already working at a school-site the monitoring progress is easier when fluency probes are already being instituted on a regular basis. For those who work at schools were school-wide oral reading fluency probes are not administered on a school-wide basis, many measures are available for a free or at a low cost. As part of the ongoing literacy program at the school students were administered curriculum-based oral reading fluency passages every six to eight weeks, depending on the grade level, as part of a mandatory Unit Test to assess the concepts and skills taught in the *Open Court*, 2000 Reading Program, that this case study school used as its primary language arts curriculum in every grade level. The Unit Tests were developed, reviewed, and published by the Sacramento County Office of Education (2003). The students were not exposed to the reading probes before they were assessed. In addition to oral reading fluency, students were evaluated on the Unit Test through multiple-choice questions on reading comprehension, language skills, spelling, vocabulary, and through a writing assessment. The Sacramento County Office of Education developed benchmark scores in reading fluency by taking the total number of words read per minute correctly at the 50th percentile of their norming sample. The case study school district's goal was to have every student in the district read at or above this benchmark score. Students were assessed in each grade on two reading probes of approximately 150 to 225 words per passage. The oral reading fluency probes were scored by the number of total number of words read correctly per minute (WCPM) on each passage.

*Step 2: Collecting available data***.** The school employed a Reading Coach whose duties included distributing the Unit Tests containing the Oral Reading Fluency passages to every grade level. The Reading Coach also ensured that the Unit Tests were administered and collected within a given time frame. The classroom teacher or teaching assistants administered the reading passages. Teachers or the teaching assistants tested the students either in a back corner of the classroom or in a quiet hallway outside of the classroom. Teachers were given written directions on administering the oral reading fluency passages. The directions specified that the students should not look at or be exposed to the passages before reading the stories. Each student received a laminated copy to read while the teacher had copy that listed the cumulative total number of words for each line in the margin. The directions indicated that teachers should tell students:

When I say "Begin" start reading aloud at the top of this page. Read across the page (DEMONSTRATE WHILE POINTING). Try to read each word. If you come to a word you don't know, I will say the word for you. ***Read as quickly and accurately as you can, but do not read SO fast that you make mistakes.***

As the students were reading, the teacher put a slash through words read incorrectly. Words that the students read that were mispronounced, substituted, or omitted were scored as errors; however, words that were read incorrectly but self-corrected by the student were counted as correct. If a student could not read a word correctly after three seconds the word was told to the student and marked as incorrect. The total number of words read minus the errors was totaled and then recorded on the page. Each student was administered two separate reading passages for each of the unit tests.

Using a classroom report, the teacher then recorded the scores of all of the students in a class. The Reading Coach, who gave copies to the school psychologist, collected copies of the classroom reports. The average number of words read per minute correctly from the two passages was used in the analysis. As some grade levels completed one to two more units than others, only four fluency probes for each grade level were selected. The fluency probes were selected so that students' progress at approximately two-month intervals—during the first quarter, second quarter school, third quarter, and fourth quarter—could be tracked.

Step 3: Analyzing and presenting the data. The next step in the process was to enter the scores into a data processing program. Computer programs such as Microsoft Excel can compute averages, find standard deviations and percentile ranks, and display the results in different formats including graphs. Although some teachers, administrators, and parents have a strong background in statistics and enjoy looking at rows of numbers, many do not, so presenting the results in an easy to understand format is crucial. For the case study school, Table 1 presents the 16th, 50th, and the 84th percentiles across each grade level by time of testing and Words Read Correctly per Minute (WCPM). When this table was first shown to the principal, she commented that it was informative, but the format made it difficult for teachers and parents to understand. Additionally, Table 1 did not include the district benchmark reading fluency scores that the teachers needed to know.

Table 1.

WCPM (Based upon the Mean of Two Passages) by Grade and Time of Testing for the 16th, 50th, and 84th Percentile Ranks for Urban Elementary School

Grade	Percentile Rank	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
	16			7	23
1	50	N/A	N/A	23	47
	84			58	94
	16	19	37	33	60
2	50	44	64	68	96
	84	75	98	95	120
	16	50	49	58	68
3	50	81	82	89	107
	84	110	110	122	140
	16	40	44	56	70
4	50	74	75	91	101
	84	111	105	117	137
	16	63	69	63	73
5	50	95	91	94	103
	84	129	123	124	142

In response to the principal's observations, a second table was then created to present both the words-per-minute read correctly and the corresponding percentile rank for each grade level and quarter. For example, in Table 2 the scores of every second graders during the second quarter of the year were listed. Scores below the 16th percentile were shaded to illustrate that students scoring at this level are most at-risk and should have priority for intervention services. Table 2 was better received because it helped to identify the lowest performing students across each grade level. The SST, in explaining to some parents of the lowest performing students that their child was struggling in reading and would need extra help, often used this table.

Table 2.
WCPM and Corresponding Percentile Rank for Second Grade, 2nd Quarter—Shaded Region Indicates Second Graders Most At-Risk

Fluency Scores In WCPM	Cumulative Percentile Rank	Fluency Scores In WCPM	Cumulative Percentile Rank	Fluency Scores In WCPM	Cumulative Percentile Rank	Fluency Scores In WCPM	Cumulative Percentile Rank	Fluency Scores In WCPM	Cumulative Percentile Rank
8	.3	33	14.3	56	41.8	79	66.8	102	88.7
9	.6	34	15.2	57	42.4	80	67.1	103	89.3
10	1.2	35	15.9	58	43.0	81	67.7	105	89.9
12	1.5	37	16.8	59	44.2	82	68.3	106	90.5
14	2.4	38	18.8	60	44.8	83	68.9	107	92.1
15	2.7	39	19.8	61	45.4	84	70.7	108	92.7
16	3.7	40	20.4	62	47.6	85	72.3	109	93.3
18	4.6	41	21.3	64	50.3	86	73.2	110	93.6
19	4.9	42	23.2	65	51.8	87	74.4	111	94.2
20	5.5	43	24.7	66	52.4	88	75.3	112	95.7
21	6.1	44	25.6	67	54.0	89	76.2	113	96.0
22	6.7	45	28.8	68	56.5	91	76.8	114	96.3
23	7.6	46	28.4	69	57.0	92	78.7	115	96.6
24	8.5	47	29.6	70	57.6	93	79.0	121	97.0
25	9.5	48	30.5	71	58.5	94	80.2	123	97.6
26	9.8	49	33.5	72	59.0	95	80.8	126	97.9
27	10.4	50	35.7	73	59.6	96	82.0	127	98.2
28	11.8	51	36.3	74	61.3	97	82.9	128	98.5
29	12.5	52	37.2	75	62.2	98	84.1	135	98.8
30	13.1	53	38.7	76	63.7	99	85.7	141	99.4
31	13.4	54	39.3	77	64.9	100	87.2	163	99.7
32	13.7	55	40.2	78	65.2	101	87.8	171	100.0

Figure 1 was developed after a discussion with the principal at the school about identifying students who were struggling with reading. At this school, as at many schools, when an intervention program was available each teacher in a grade would nominate for it two or three of his or her lowest performing students. Figure 1 helped the SST to understand why relying only on teachers referrals for interventions or for a possible assessment for special education is not always the best way to identify the neediest students. Each dot represents a student's average reading fluency score. It is easy to observe that across classes the students are not distributed evenly in terms of their reading ability. At this school with a majority of English language learners, students were assigned to classrooms based on their level of proficiency in English on a combination of oral and academic language measures. One teacher with a classroom of strong readers might refer the two lowest students for extra help even those students are not among the lowest students across all third-grade classrooms. In comparison, a teacher with a classroom of struggling readers might need to refer one-third of his or her students for available interventions.

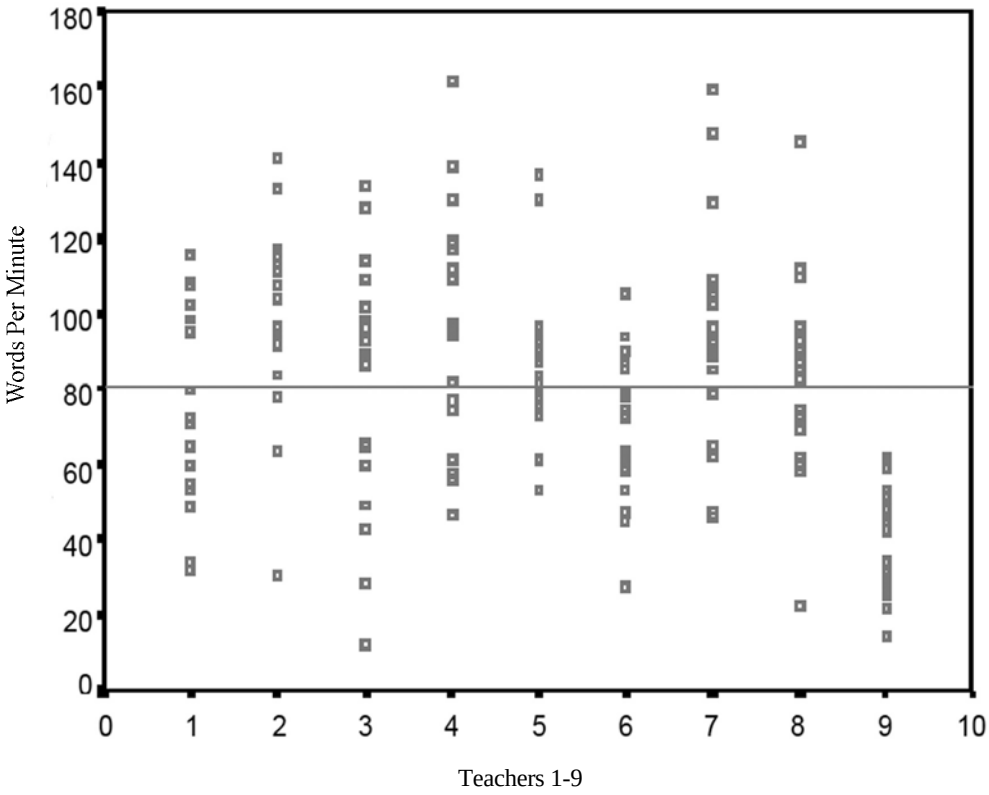

Figure 1.
Reading Fluency Scores Reported by Teacher
Note: Each dot indicates a student's average score.

The final graph (created using Microsoft Excel, contact authors for a step-by-step description of how to generate these graphs) that was developed to facilitate the SST review process was not only the most useful in monitoring student progress, it was easily understood and appreciated by teachers, administrators, and parents. Figure 2 included the benchmark or target scores that were set by the district as well as the 16th, 50th, and 84th percentile rank for each grade level by quarter in words read correctly per minute. A student's progress could then be marked (in colored ink on the original) on the graph each quarter. Figure 2 allowed the school to monitor every student's progress while being able to compare each student to how well he or she was performing compared to other students at the school, as well as whether or not the student was meeting district grade level reading fluency standards. Using Figure 2 for each of the lowest performing students who are not progressing was then used to identify those for Tier 2 focused interventions. Before implementing this CBM data procedure, teachers at the case study school who had low performing students (not reading at or above the benchmark scores) had a difficult time knowing how low the student was performing compared to others at the same grade level at the school. These procedures to organize the school's readily available, but not analyzed oral probes, provided the teachers an objective way to assess the relative need of each student to best prioritize the use of available resources.

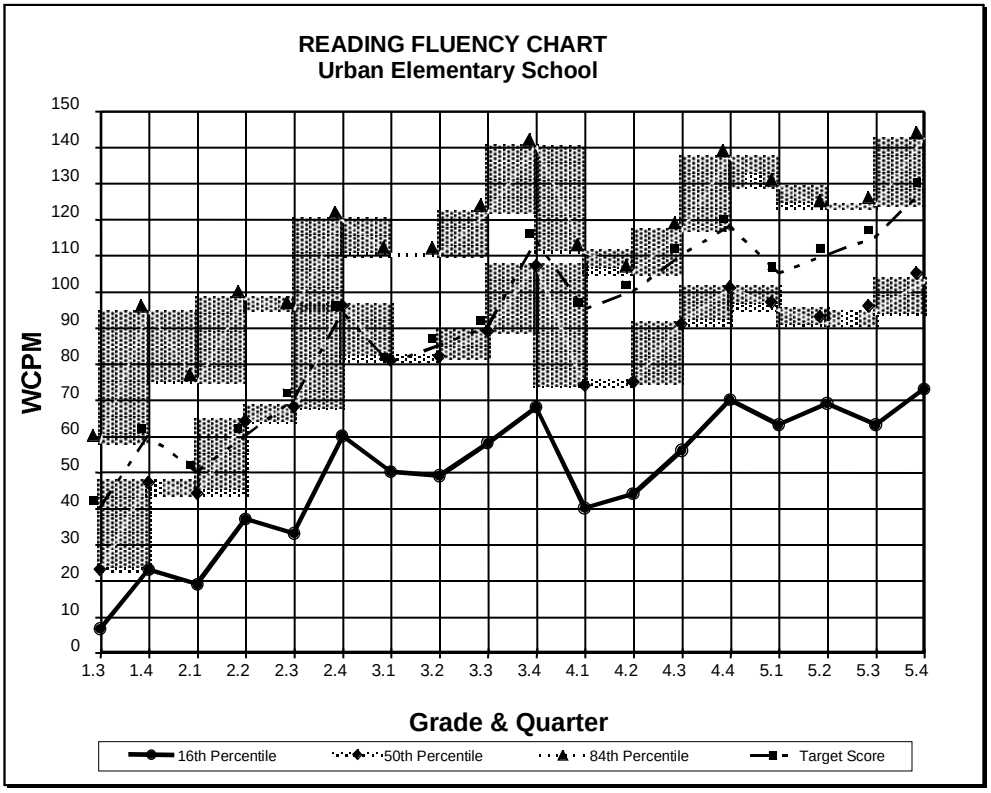

Figure 2.
Reading Fluency Scores Reported by Benchmark Scores and the 16th, 50h, and 84th Percentile Ranks for Each Grade Level and Quarter in Words Read Correctly Per Minute

DISCUSSION

This case study provides one pragmatic demonstration of how school psychologists can take the first steps to coordinate existing student performance data as part of a universal screening and continuous progress monitoring strategy (National Research Center on Learning Disabilities, 2005). Before RtI can be implemented in any school, a valid and workable system for assessing and monitoring all students must be in place—ideally as part of the regular education practice, as was done in this case study. With the passage of *IDIEA* in 2004, school psychologists, now more than ever before, need to possess the knowledge and skills necessary to help implement an RtI program in their schools or school districts if the decision is made by their local or state educational agency to implement an RtI model as part of the process to identify students with specific learning disabilities.

This case study had several benefits for the first author and her school. The first author benefited by becoming more familiar with analyzing curriculum-based measurements and implementing a progress monitoring system before RtI is recommended or even mandated at a particular school. Additionally, the first author was pleased to step out of the traditional role of being seen as a "tester" and enjoyed being seen as a problem solver with expanded responsibilities. The school benefited because the prin-

cipal and most of the teachers were very receptive to the information that was provided, in part because it assisted them to make better and more efficient use of student performance data that they were already collecting.

Although the experience was a positive one, there were several limitations to this case study. Some teachers at the school did not accept that reading fluency was a good indicator of overall reading ability and thus did not want to depend on the reading fluency scores for any critical decision making. Although research has shown that ORF is a valid and reliable indicator of reading ability, there is often a lack of acceptance, especially among teachers (Hamilton & Shinn, 2003; Shinn, Good, Knutson, Tilly, & Collins, 1992).

Other teachers were concerned about comparing English-proficient students with students who were classified as English Language Learners (ELLs). They brought up the point that a student who speaks English fluently when entering kindergarten should be expected to make more progress in reading by the end of second grade than a student who entered kindergarten without knowing any English. Some teachers proposed that two progress monitoring charts be created—one for ELLs and one for English-only students (with the goal that every student reach the benchmark standards) to prioritize which students in each of the two language groups needed the most amount of help. Although the reliability and validity of CBM-ORF has been studied extensively, its use with limited English speakers has received surprisingly little attention. In this case study school, 73% of the students where classified as English Language Learners and the state in which the study took place borders Mexico. Baker and Good (1992) found CBM in English was as reliable and valid for bilingual English-Spanish Hispanic students when compared to English-only students. However, this study only included second graders, and Baker and Good caution that in later grades when vocabulary in the reading passages becomes increasingly more challenging some limited-English speakers may be able to decode words with only limited comprehension of what is being read. In a study of almost 4,000 first through third graders, bias was found in ORF probes in predicting reading proficiency on a group administered nationally normed achievement test based on ethnicity and home language; thus Klein and Jimerson (2005) express caution in using ORF probes as the only determination in deciding which students should receive additional services. The study suggests that if ORF probes alone are used Hispanic students who come from homes where Spanish is spoken would be under identified to receive additional services whereas Caucasian students whose come from homes where English is spoken would be over identified to receive additional services (Healy, Vanderwood, & Edelston, 2005).

The major limitation for this case study was the lack of continuity that can occur as educational reforms are developed. At the end of the year the principal of the school within which this case study was conducted was reassigned due to a large shift of administrators within the district. Additionally, the first author was given a different school assignment the following school year. As a result, none of these data are currently being used at the school. This demonstrates that even when a school SST organizes to track and organize available CBM information to support database decision making, it faces the additional challenge of being sustained at the school regardless of changes in key personnel. The experience of the case study school shows that regular education based, universal CBM procedures can be implemented at a school, but these efforts will require additional district, Special Education Local Plan Area (SELPA), and State support if they are to have continuity across time.

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