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1

Using Data to Monitor Early Literacy Development

Elizabeth A. Sloat and Joan F. Beswick

Introduction

In keeping with the evidence-based policy-making foundation of the 2009 Aboriginal Policy Research Conference (APRC), the purpose of this paper is to describe the early literacy monitoring system aimed at reducing reading problems for children in kindergarten to grade two that was developed and pilot-tested by university researchers in collaboration with 26 schools.¹ The basic design of the monitoring system was to rely on regularly collected early reading skill-assessment data to track each child's progress so corrective intervention could be provided quickly when needed. It was one of several approaches examining tested strategies for improving students' learning outcomes, and in particular the efforts aimed at increasing student literacy rates.

The impetus for this collaborative five-year study was the need for drastic measures to improve literacy skills in a region that has consistently performed at the bottom of the achievement scale on local, national, and international literacy assessment surveys. Given the extensive research over more than two decades that clearly shows that children who begin school with poor reading skills tend to remain at the low end of the ability scale, research project partners agreed that we would target children transitioning from home to school. We thus focused our attention on students in kindergarten to grade two who were at risk of early reading difficulty, so they could transition successfully from primary to elementary school—the point at which demands on reading, literacy, and overall knowledge and skill increase significantly.

We have organized this paper first to consider what we have learned from research about the importance of learning to read early and well, and to consider the relationship between early reading acquisition and academic success. We then set out the type and range of school-monitoring systems already available for guiding policy and program planning, but highlight the limitations of these existing systems in terms of their benefits to the immediate classroom context and the immediacy of students' learning needs. In the third section, we describe the design and function of the monitoring system developed collaboratively by districts, schools, and researchers, and explain how the system is intended to work. We consider the implications of an early literacy monitoring system for educators and administrators in the paper's fourth section before offering concluding comments to complete our discussion.

The Importance of Early Reading Acquisition

Children typically experience two critical transitions during their early development in terms of the relationship between school success and literacy ability. The first occurs when they begin their schooling experience, which in most regions occurs at about five years of age; this is the point at which children are faced with more formal curricular demands. The second critical transition occurs just three short years later at around age eight when children enter third grade. This is the juncture at which the central focus during the primary grades shifts from learning to read to increased demands on language and literacy abilities. Curricular content becomes more defined by subjects such as mathematics, language arts, and social studies, and learners must then “read to learn” while continuing to develop their reading and overall literacy capabilities.

Numerous studies over the past two decades have established the importance of acquiring solid literacy skills by third grade (Coleman and Vaughan 2000; Jackson et al. 1999; Juel 1988; Lyon 1996; Shaywitz 2003; Torgesen 2000). The opportunity to close the literacy gap for children lagging behind diminishes drastically once they are faced with the reading challenges of a content-focused curriculum. Children who do not learn to read well at an early age are unlikely to ever read fluently (Lyon 1996), with strong research evidence indicating that poor readers at the end of grade one have an 88% likelihood of being well below grade level after three additional years of regular instruction (Juel 1988). Children who do not achieve literacy skills commensurate with grade-level expectations by the end of third grade experience reduced curricular access, require long-term support, and fall further behind their same-grade peers in literacy achievement and curricular knowledge (Jackson et al. 1999). Once the cycle of failure begins, children encounter difficulty with all aspects of the curriculum (Boehnlein 1987), and it is extremely difficult for them to bring their literacy skills up to grade level.

The importance of learning to read well during the primary years and the ability to make a smooth transition to the actual use and employment of those skills cannot be overemphasized. Failure to meet grade-level expectations in reading is the most commonly cited reason for retention recommendations in the early grades (Snow, Burns, and Griffin 1998), even though research clearly suggests that retention without specialist intervention is not helpful for children with reading difficulties (Shaywitz 2003; Shepard and Smith 1986). Research also provides evidence that learning to read well during the early school years not only reduces the number of children with significant reading difficulties and those who require special services, but also diminishes the number of children later identified as learning disabled (Dickson and Bursuck 1999; Torgesen 2000). Persistent reading difficulties then create pervasive negative consequences across the lifespan, including poor self-esteem, reduced motivation, behavioural difficulties, psychosocial adjustment problems, reduced educational attainment, limited long-term occupational success, and lower economic status (Jackson et al. 1999; Coleman and Vaughan 2000).

Clearly, the short- and long-term consequences of early reading acquisition are significant, and place a heavy responsibility on primary schoolteachers. Moats's contention that teaching reading is analogous to rocket science (Moats 1999) attests both to just how complex the reading process actually is, and to the high degree of professional expertise required to teach children to read. Reading disparities among children are evident as early as kindergarten (O'Malley et al. 2002; Torgesen 1997), yet most children with reading deficits can learn to read if they are identified early and provided the appropriate instructional support (Lyon et al. 2001; Torgensen 2001).

An overwhelming amount of scientific research literature over the past two decades alone clearly demonstrates that fluency and accuracy in employing known precursors to reading development, such as rapid letter naming and phonemic awareness, are essential to learning to read (Adams 1990; Ehri et al. 2001; Fletcher et al. 1994; Moats 1999; NRP 2000; Scanlon and Vellutino 1997; Stanovich 1986; Vellutino et al. 1996; Xue and Miesels 2004). Phonemic awareness, or the capacity to manipulate sound segments in the sounding out of words, has been shown to be a distinguishing factor between difficult-to-remediate and readily remediated readers, and is thus a key predictor of future reading success (Schumaker et al. 1986; Stanovich 1986; Fletcher et al. 1994).

Differences in reading ability are apparent in the kindergarten year, and these differences become increasingly more evident in each subsequent school year if not redressed early (O'Malley et al. 2002; Stanovich 1986; Torgesen 1997). Children who arrive at school with reading deficits can learn to read if they are identified early and provided intensive instruction in learning-to-read foundations (Lyon et al. 2001; Torgensen 2002). Left unaltered, however, the deficit reading cycle continues and compounds, with poor readers exhausting their cognitive resources on lower-order decoding activities rather than investing in higher-order skills like meaning-making, interpretation, and critical thinking about what they read (Stanovich 1986). Repeated negative experiences with texts cause children to disengage from reading and from interacting with texts in general, such that knowledge and skills like reading fluency, comprehension, word recognition, vocabulary development, independent reading, and writing convention awareness fail to be developed.

Monitoring System Designs and Purposes

Overview of Systems Available

There are many performance-monitoring systems already in use in most educational jurisdictions quite literally around the world. The notion of monitoring is thus not a new concept, and systems for tracking student performance vary in form and size, depending on their purpose and design. Monitoring essentially entails an orderly and systematic procedure using consistent measures to assess a set of skills over a prolonged period of time. A number of international studies

that serve as global monitoring systems are administered through the Paris-based Organisation for Economic Co-operation and Development (OECD) in which Canada and many other countries participate on a regular basis. The International Adult Literacy Survey (IALS) is designed to assess both the degree of literacy skill and how skills are distributed within each participating country for adults aged sixteen and older. The Programme for International Student Assessment (PISA) is another OECD-based survey that collects data on 15-year-olds in the areas of mathematics, science, and literacy.

For both of these large-scale, multinational surveys, each country is assessed and ranked according to its performance and success on the survey. The primary purpose of the surveys as monitoring systems is to provide points for comparing countries from an international perspective, and to track change over time from a global perspective. Individual countries can, however, extract their own data and conduct more refined analyses for making within-country comparisons, such as noting distinctions between provinces or states. Individual countries like Canada also tend to conduct their own national assessment surveys regularly to monitor and track progress on specific performance indicators. The National Longitudinal Study of Children and Youth (NLSCY) has been ongoing since the 1990s for the purpose of tracking children from birth onward according to a number of health, economic, social, and academic outcomes.

These national and international surveys provide important information for policy and program development decision-makers. They provide a snapshot of how well an individual province or territory, or the country as a whole, is performing in areas such as levels of adult literacy. Findings are then used to examine the educational and economic implications of a jurisdiction's achievement status for determining relevant programs and policies. Programs and policies derived from these surveys are largely driven by the federal, provincial, and territorial governments.

There are also monitoring systems administered at the provincial and territorial levels. Perhaps the most widely recognized of these are government exams administered consistently each year at specific grade levels for specific subject areas. Many jurisdictions, for instance, have all children in grade two complete a reading and writing assessment for the purpose of determining the effectiveness of the curriculum and its delivery during the kindergarten-to-grade-two period. These kinds of regional monitoring systems are designed to collect data at the school, district, and provincial and territorial jurisdiction—largely for comparative purposes—to discern how well students at the school or district levels compare with those in other jurisdictions; to assess whether achievement in jurisdictions changes over time; and to determine whether there are inequalities in learning outcomes among students with differing ethnic or social class backgrounds.

The information garnered from this type of monitoring is useful for administrators when deciding how best to allocate resources, establishing performance benchmarks, determining the effectiveness of certain programs, and monitoring

long-term trends to determine the strengths and weaknesses of school systems (Hamilton 2004; Willms 2000). In all cases, these large-scale assessments are conducted at the end of a period of common schooling, such as at the end of second grade, to discern how well children, and thus the system as a whole, are faring. In this regard, such monitoring systems tend to provide two general and descriptive elements of information—a retrospective of how well a system has performed in the past to inform future policy and program-planning efforts, and a snapshot of the overall status of a student, class, school, or district in a given area at a single point in time.

A major concern with large-scale monitoring systems deals with both the type and amount of assessment data furnished at the individual level, and thus the amount of information available to inform the ongoing curricular needs of each child. While large-scale monitoring systems do provide a means for assessing differences amongst jurisdictions, they do not provide detailed information at the individual student level that is sensitive enough to enable classroom teachers and school principals to alter their practices in concrete and specific ways, and to make changes in the immediate term so that individual learning needs can be addressed when learning is most relevant. Individual-level testing is largely left to the domain of teachers and the tests they create.

A Child-Centred Early Literacy Monitoring System

An effective monitoring system aimed at improving student performance in the immediate term thus needs to entail an immediate knowledge-transfer strategy that provides timely, accessible, and concrete feedback teachers can use to inform ongoing teaching, learning, and assessment efforts. The approach we adopted to redress the limitations of most monitoring structures included tracking each child's reading growth through the repeated use throughout the year of the same instruments containing detailed, developmental measures of reading ability. All of the assessment measures provided clearly articulated benchmarks against which to determine each child's developmental status.

In so doing, our aim was to garner the student-level data needed to guide classroom practice, in addition to aggregating the data to inform class, school, district, and provincial policies and programs. Monitoring the variables that influence early literacy skill development thus enabled the collection of data on all children at the point of school entry and at regularly scheduled intervals to ensure that target knowledge and skills were achieved. Schools then had the data and information they needed to develop intervention programs by the end of the first school term tailored to help each student reach incremental, concise, and point-specific learning targets. Monitoring the progress of the interventions through ongoing assessment enabled schools to determine their efficacy and to facilitate ongoing curricular alterations as needed.

To design our early literacy monitoring system, we first conducted a comprehensive review of the research literature but were unable to locate any models of

the kind of large-scale, standardized monitoring structure we considered necessary to ensure an immediate knowledge-transfer strategy to teachers, schools, districts, and government, so we had to develop our own system components. We thus reviewed extensively the many early literacy assessment instruments available both locally and internationally according to the ten criteria identified by all research collaborators. Instruments needed to:

1. possess documented reliability and validity, and standardized administration procedures;
2. be sensitive enough to track small changes in children's growth over short periods of time;
3. measure children's progress over the kindergarten-to-grade-two period;
4. yield individual-level data to identify risk factors and inform instruction;
5. ensure data could be aggregated effectively to inform policy and practice;
6. possess contemporary Canadian norms;
7. provide an accurate and detailed measure of a child's preparation for the school setting;
8. balance direct and contextual assessments;
9. be easy for teachers to administer and interpret; and
10. be cost-effective, both in terms of the time required for their administration by teachers or external assessors along with other costs associated with their use.

We subsequently selected four main instruments for our monitoring system to meet these ten criteria. All of the instruments possess sound technical properties based on large sample populations, balance teacher observation with direct assessment measures, and provide for the tracking of each child's reading growth. They allowed us to garner the student-level data needed to guide classroom practice in addition to aggregating data to inform whole class, school, district, and provincial policies and programs. The following briefly describes our measures and how they were used as an early literacy monitoring system.

The Early Years Evaluation-Teacher Assessment (EYE-TA) served as the first step in our multi-tiered monitoring system aimed at the early identification of developmental difficulties. The measure was developed by two members of our research institute (Willms and Beswick 2005) to address the need indicated by our partners for an accurate and detailed developmental profile of the degree to which a child was prepared to meet the challenges of the school setting in five key developmental domains:

1. general knowledge;
2. social skills, behaviour, and approaches to learning;
3. cognitive skills;
4. language and communication; and

5. physical development.

The EYE-TA was completed online by classroom teachers between mid-October and mid-November, after all children in a single classroom had experienced a period of common schooling. As an assessment tool, the instrument requires teachers to complete a series of questions about each child's knowledge and ability in each domain using a response scale ranging from "unable to do it" to "can do it consistently." Results are then calculated to give an overall domain rating on a scale of one-to-four. To complete the questions for each learner, a teacher either makes a determination based on observations during regular classroom teaching and learning, or in cases where there is uncertainty, conducts a short direct assessment to obtain an accurate evaluation.

The Early Years Evaluation instrument is unique from other teacher rating instruments because it is comprehensive and includes aspects of physical development and social skill in addition to measuring language and cognition. It is also unique because of the objective and accurate response required regarding the abilities being assessed rather than simply a subjective "best guess" impression. Questions are posed that ask whether a child *can do* a particular task, rather than those that simply ask for an overall impression of how teachers *think* a child might perform, as is the case with many teacher rating scales of student performance. Our previous research on teacher rating scales of school preparedness (Beswick, Willms, and Sloat 2005) suggests that there is a tendency in subjective ratings toward biased responses favouring children who are female, of high socio-economic status, are non-Aboriginal, and without any behaviour problems. The EYE-TA mitigates the negative consequences of inaccurate assessments by providing objective and thus fair assessments of individual children. Students identified as struggling with the transition to school are referred for a detailed assessment. For example, though not ready for use in this study, the direct assessment form of the EYE-TA is now available to use with children requiring a comprehensive diagnosis to identify where, more precisely, they are struggling with early language and reading development.

Given the implications for children, academic determinations cannot be made about students based on the results of one instrument alone. A second instrument, therefore, included in our monitoring system was the Dynamic Indicators of Basic Early Literacy Skills (DIBELS) (Kaminski and Good 2003). The DIBELS is a series of curriculum-based measures to assess ability on the fundamentals or building blocks of reading—phonemic awareness, alphabetic principle, fluency, and comprehension that provide specific instructional information to classroom teachers. This is a direct assessment measure that required teachers to assess each child at regular intervals throughout the school year beginning at the kindergarten level. The instrument has strong validity and reliability criteria, requires standardized administration but is easy to learn how to complete, and requires about ten minutes per child so a class can be completed in one day. Feedback on individual performance is immediate, and results are used to inform instruction using the

Table 1.1: Letter Naming Fluency

	At Risk	Some Risk	Low Risk
Early Kindergarten	fewer than 2 correct	2 to 8 correct	9 or more correct
Middle of Kindergarten	fewer than 15 correct	15 to 26 correct	27 or more correct
End of Kindergarten	fewer than 29 correct	29 to 39 correct	40 or more correct

benchmark data provided based on a sample of over one million children. **Table 1.1** demonstrates the benchmarks and risk categories for children’s fluency in recognizing and naming the letters of the alphabet. The measure served to meet several of our partners’ criteria, such as the need for tracking small changes over short periods of time, providing individualized data to identify risk factors and inform instruction, cost-effectiveness, and easy administration.

As the name of the DIBELS implies, this instrument is meant to be an *indicator* of how well children are developing in the fundamentals of early literacy skill development. To augment and complement findings from the DIBELS, we also administered to each child the Wechsler Individual Achievement Test—Word Reading Subtest, Second Edition (WIAT-II) (Psychological Corporation 2001). This is a widely used norm-referenced measure with strong technical properties that provides an individualized direct assessment of emergent and early reading skills, including phonological and phonemic development, alphabetic knowledge, and early word identification. We administered this measure annually to children in kindergarten to grade two to track each learner’s progress longitudinally, to aid in identifying struggling learners during the first term of each year, and to inform instructional need. The instrument also has contemporary Canadian norms, so results could be used to meet our collaborators’ requirement of being able to compare the abilities of the children in our study with those of other children across Canada.

The three instruments just described, the EYE-TA, the DIBELS, and the WIAT-II, constitute the main components of our early literacy monitoring system. To aid teachers still further, we also made available to schools the Phonological Awareness Literacy Screening (PALS) (Invernizzi et al. 2003), a criterion-referenced literacy screener chosen after extensive research to allow schools to conduct more in-depth diagnostic assessments of struggling students. This measure has standardized administration procedures and is technically sound. It is also easy to administer, and yields specific information to plan targeted intervention.

How the Monitoring System Works

Before explaining in more detail how the monitoring system was actually implemented and designed to work for students, schools, and teachers, we first overview the pilot study’s timeline and participants. This is important to the discussion of how the monitoring system worked since one of the more significant issues surrounding research pilot projects like this is the concern over whether the model

being tested can be grown to scale, and if it can be done so cost-effectively. We thus elected to work with a large group of teachers and students so we could consider large-scale implementation issues across differing jurisdictions, along with seeking to determine the effectiveness of the monitoring model itself as a successful early literacy learning support mechanism.

The first “growing to scale” strategy we employed was to test the model’s applicability in five districts, each representing its own unique set of demographic and geographic characteristics. One district had mainly inner-city schools with large student populations where resources tend to be stretched because of high numbers of students needing targeted support services. A small rural district with some of its schools located on neighbouring islands accessible only by ferry was also selected. A third district was chosen because the predominant employer in the area requires families to move in and out of the community on a frequent basis and there is thus a high turnover rate in the student population. A fourth district was selected because it includes a high First Nations population, which allowed us to consider language and cultural needs as we refined our model. The fifth district was selected because of its strong rural and urban mix with families equally represented across the full socio-economic spectrum.

Each of the five districts was asked to select four schools to participate in the pilot study for a total of 20 provincial schools. In the fall of the project’s first implementation year (2004) we added two First Nations band schools, both because of their desire to participate in the project and because of their close working relationship with the pilot district in which they are located. In the spring of 2004, two additional First Nations schools in that same district asked if they could join starting in September 2005. Another district contacted us in July 2005, requesting that the two band schools in their area also enter the program. Six First Nations schools were thus involved in the project, along with a high concentration of First Nations students in two other pilot schools to yield a solid First Nations population to inform early reading program and policy development. Overall, we worked with roughly 200 teachers, 3,000 students, and the administrators, literacy support teachers, and school board personnel throughout the pilot.

The second strategy for determining how well the system could be implemented widely was to introduce the monitoring system in five phases so we could make design and administrative adjustments as new grades were added to the study from one year to the next. As set out in **Table 1.2**, we began only with kindergarten in Phase II of the pilot, following a full calendar-year consultation with schools and districts in Phase I to determine their requirements for an early literacy monitoring system. We subsequently added new grades and classes each year while continuing to work with those previously enrolled in the system’s piloting.

There were two primary mechanisms practitioners relied on to inform teaching and learning. The first was the raw data from the three individualized assessments, primarily the EYE-TA and the DIBELS. All of the assessments provide a numerical result for a child’s performance on each measure, and there are clearly

Table 1.2: Pilot Project Timeline

Phase I 2003–2004	Program design and development; one-year consultation with partners.
Phase II 2004–2005	Kindergarten program pilot in all kindergarten classes in 22 pilot schools
Phase III 2005–2006	Kindergarten–grade one program pilot. Involved model application with the new cohort of kindergarten students entering the 26 pilot schools; continued monitoring of first student cohort as they progressed through first grade.
Phase IV 2006–2007	Kindergarten-to-grade-two implementation, with ongoing monitoring of previous pilot cohorts.
Phase V 2007–2008	Continued kindergarten-to-grade-two pilot-testing of the monitoring system.

defined benchmarks for low-to-high-risk status against which to compare individualized results. To simplify the data reading process, and to aid with identifying where a child required intervention, the second mechanism we employed was to consolidate all assessment results into colour-coded feedback reports to be issued to boards, principals, teachers, and literacy support teachers in December and May of each school year.

Table 1.3 is an example December report showing the results for one entire class for all of the assessments administered between September and early December in term one. Numbered results for every child on each assessment are translated into red, yellow, and green colour codes to achieve two purposes. First, red, yellow, and green are universally recognizable colours and thus they are easier and faster to interpret than multiple numerical codes. It is clearly and immediately evident whether a child is at high risk of reading failure and in need of significant intervention (red), at some degree of risk and thus requiring some intervention and continued close monitoring (yellow), or above the risk status threshold (green). The second advantage of the colour codes is that they facilitate relaying immediate and meaningful information more effectively to parents. Please note that for this publication the colour code has been adapted. Therefore, green is represented with white, yellow with grey, and red with black.

When results from the first three assessments are taken together, they provide a powerful picture of a child's early reading skill and performance. The consolidation of the results into a single report identifies both a child's risk status and the domains in which a child is struggling. The reports enable teachers, schools, and districts to identify where and with whom interventions are required so plans can be put in place for January. The final reports issued in May ensure intervention plans are ready for the following September when school begins so there are no delays in providing the type and degree of support each child needs to correct

Table 1.3: December Report

Canadian Research Institute for Social Policy (CRISP) NB Schools Early Literacy Project Report for: Elementary School, Jenny Smith Term 1 Kindergarten Report, January 2005
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Student First Name	Assessment Measures					
	DIBELS				WIAT-II Word Reading	EYE-TA Learning
	ISF		LNF			
	Sept.	Nov.	Sept.	Nov.	Oct.	Nov.
Tori	☐	☐	■	■	■	■
Brady	☐	■	☐	☐	■	☐
Nigel	☐	■	■	■	■	■
Austin Eric	■	■	■	■	■	☐
Olivia	☐	■	■	■	■	■
Dalton	■	■	■	■	■	■
Destiny Marie	■	☐	■	■	■	■
Hope Samantha Lynn	☐	■	■	■	■	■
Joshua	☐	■	☐	☐	■	☐
Brenden	■	■	■	☐	☐	☐
Nathan	■	■	■	■	■	■
Ryan Blair Winston	☐	☐	☐	☐	■	☐
Julia	■	■	■	■	■	■
Samantha	■	■	☐	☐	■	☐
Nicholas	■	■	☐	☐	■	☐
Tyler	☐	☐	☐	☐	■	■
Brandy	■	■	■	■	■	■

Developmental Level	Symbol	Score Range	Recommendation
Appropriate development	☐	>40th percentile	Quality instruction
Experiencing some difficulty	■	20th to 40th percentile	Targeted Support
Evidence of significant difficulty	■	<20th percentile	Intensive Intervention

reading difficulties. Aggregate data equally provide powerful data to guide policy and program decisions at the whole school and whole district levels to identify areas where particular interventions and supports are required. Ongoing monitoring then allows it to be determined whether interventions are working at all levels so adjustments can be made as and where necessary.

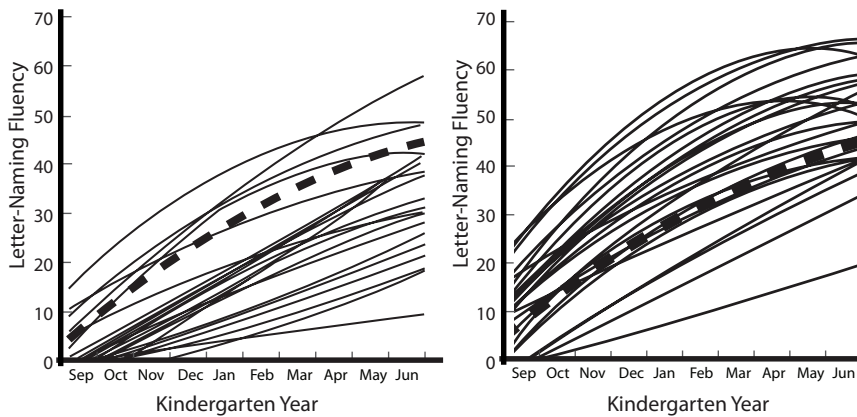
Implications

The monitoring system like the one we developed and pilot-tested has a number of important implications for school policy and programs. A key feature of its design is that it furnishes longitudinal data to show individual growth trajectories in children's literacy development. The basic idea of a growth trajectory is that data is collected on a continuous measure for each individual over at least three time points (Raudenbush 2001; Raudenbush and Bryk 2002). A regression line is then fit to the data for each individual with an average growth trajectory also represented. **Figures 1.1a** and **1.1b** depict the growth trajectory for each child in two kindergarten classes based on each child's score on the DIBELS letter-naming fluency (LNF) measure. The dotted line in each graph represents the average growth trajectory of the nearly one thousand children in the first year of the study, with each solid line representing a single child in a class.

Representing the data in this manner demonstrates the degree to which children within the same school system can vary in their early literacy growth rates. It further demonstrates the extent of variation amongst children upon entry to the school system, and raises even more questions around understanding why such variation exists. Trajectories are a valuable mechanism for tracing normal growth patterns, risk factors, the onset of new abilities, and for conducting intervention assessments. Tracing individual trajectories in a well-defined domain like literacy can aid with identifying and understanding the timing of reading and overall language growth.

It is important to understand, however, that monitoring is not in any way meant to replace the important assessment, curricular planning, and intervention work that educators already do. Teachers know their students best, and ongoing observational and informal assessments are essential to the accurate interpretation of results derived from standardized diagnostic assessments. Observational checklists like Clay's 2007 reading record and the use of levelled texts to gauge individual reading instruction levels are important assessment tools that need to work in tandem with monitoring system data. As a first step, monitoring is thus intended to augment, support, reinforce, and validate observational and informal assessment procedures.

Many teachers in our pilot project acknowledged with regularity how their initial impressions of some readers contrasted with findings from the standardized assessments. Together, both dimensions provide a clear framework for reconciling differences and ensuring each child receives a full diagnosis for an accurate reading intervention determination. At the same time as confirming that no children are misdiagnosed in terms of their reading needs and abilities, monitoring also ensures that no children are missed who may need augmentative instruction and additional support. Even at the kindergarten level there are always quiet children or those with already well-developed mechanisms for hiding language problems

Figure 1.1a and Figure 1.1b

that may go undetected without a strategy to ensure the reading and literacy status of every child is clearly identified and understood.

Monitoring children's literacy development also has significant implications for professional learning, along with district and governmental practices, and even teacher education programming, that require all of us to reassess our current curricular content, the knowledge and skills it imparts, and our existing assumptions about teaching and learning. Our monitoring system purposely supports the three-tiered approach to early literacy instruction advocated by the widely influential report from the Committee on the Prevention of Reading Difficulties in Young Children (Snow et al. 1998):

- Tier I requires the provision of excellent, integrated classroom literacy instruction delivered by well-trained and well-supported professionals who skilfully integrate literacy fundamentals with active, engaging, and meaning-making reading activities.
- Tier II requires the allocation of supplementary resources and enhanced learning opportunities to children encountering increased challenges in learning to read.
- Tier III requires comprehensive diagnostic assessment and specialized remedial intervention for those who do not make adequate progress even with excellent instruction and supplemental support.

This means, however, that educators across the spectrum require a breadth of knowledge that enables them to provide the kind and level of "excellent" instruction explicated in the committee's report. Professionals require comprehensive knowledge about the structure, components, systems, and psychological processes involved in oral and written language (Moats 1999; Snow, Burns, and Griffin 1998). We need to know how to differentiate instruction to meet diverse learning

needs; effectively select augmentative instructional programs from the range available; employ research-validated best practices in literacy instruction; possess a solid grounding in assessment fundamentals to track growth; and understand and employ the principles of assessment-led instruction (Snow, Burns, and Griffin 1998; Moats 1999; Johnson and Rogers 2002; Denton et al. 2003; Winograd et al. 2003). Such knowledge and skill is required for anyone responsible for the reading and literacy development of young children, from university teacher-training educators and district administrators to school principals and classroom teachers. District and school administrators play a particularly significant role because they are tasked with providing the human, financial, and scheduling resources necessary for the assessment, interpretation, and instructional response to feedback that a monitoring system requires.

Conclusion

Many children arrive at school lacking the requisite knowledge in one or several domains that provides the foundation necessary for them to undertake the demands of formal schooling curricula. Most thus make the transition to school already oriented toward success or failure, and the longer they stay in school without adequate intervention, the wider the gap becomes. For decades, education systems have relied on the practice of promoting children from one primary grade to the next in anticipation that they will eventually catch up. Often it is only when it becomes evident around third grade that children still battling with literacy acquisition receive the help they need. We have, in essence, followed a “wait-to-fail” or “wait-and-see” model as our dominant approach to providing literacy support that is simply too little, too late. By third grade, problems are heavily entrenched and remediation is exceedingly difficult. Without early, targeted, and sustained intervention, struggling readers continue to fall further and further behind their peers with each year of additional schooling. Research has demonstrated that children’s negative literacy trajectories can be altered if struggling learners are identified in kindergarten, sooner if possible, and given the early, appropriate, and at times, intensive support they need to succeed. Early literacy monitoring can provide the system for early and targeted intervention to ensure reading delays do not become fixed. We just need the political will from all education partners and stakeholders to ensure its success.

Endnotes

- 1 Editor's note: The authors worked with both public and Aboriginal schools. Six First Nations schools were involved in the project along with a high concentration of First Nations students in two other pilot schools to yield a solid First Nations population to inform early reading program and policy development.

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