

# Readiness to Learn at School



BY **MAGDALENA JANUS** AND **DAN OFFORD**

**RÉSUMÉ** ► Au cours de la dernière décennie, l'homme a grandement raffiné sa compréhension du développement cérébral pendant la petite enfance et de son impact sur le développement ultérieur de l'enfant. L'importance des années préscolaires et leurs répercussions sur la capacité d'apprentissage à l'école est aussi généralement reconnue par les collectivités et les gouvernements. L'instrument de mesure du développement des tout-petits (Early Development Instrument, EDI) est un projet visant à cerner et à mesurer la capacité d'apprendre des enfants canadiens à l'entrée à l'école. Il a pour but de fournir des données pouvant montrer aux collectivités comment aider leurs enfants. Les résultats préliminaires indiquent déjà que la capacité d'apprentissage à l'entrée à l'école semble rehaussée au sein des collectivités dotées de ressources de soutien à la famille et à la petite enfance.

**ABSTRACT** ► Within the last decade, there has been an enormous increase in our knowledge of brain development in the early years and how that influences future development. The importance of the early years and their impact on children's readiness to learn at school have also been widely recognized by communities and governments. The Early Development Instrument is an effort to operationalize and measure school readiness to learn of Canadian children. It is designed to generate data that will mobilize communities to help all children. Preliminary results indicate that readiness-to-learn levels at school entry seem to be better in neighbourhoods where there are community resources providing family and early childhood support.

**T**WO MAJOR developments in public perception have given the assessment of the readiness-to-learn of Canadian children conceptual and widespread community support. First, the exponential growth of knowledge in the area of early brain development has increased public awareness of the importance of the early years.<sup>1</sup> It has been shown, not just by anecdotal evidence but through basic neuroscience, that it is the interaction between a child's genes and his or her early environment that has a profound impact on outcomes. Stimulation, both positive and negative, provided to the child long before he or she can communicate verbally, has long-term consequences on the child's development of cognitive and social abilities. Thus, fostering a healthy early childhood development and supporting parents and caregivers, will be beneficial for individual children over their life course and for the families and society as a whole.

Second, communities are increasingly interested in keeping score, to learn what is going wrong and, even more important, what is going right for young children, that is, which programs really do work. Such knowledge has the potential to channel resources into programs that are successful in a particular community, and to provide information for other communities interested in implementing similar services.

The growing interest in the readiness to learn of Canadian children is reflected in the 1997 federal Speech from the Throne (SFT) which contained the commitment to "measure and report on the readiness to learn of Canadian children so that we can assess our progress in

ILLUSTRATION: LUC MELANSON

**TABLE 1**  
**Example of behavioural profiles based on the scores for the Social Competence Scale.**

Percentile boundaries					
10%	25%	50%	75%	90%	95%
0.0	3.0	8.0	17.0	26.0	31.0
Behavioural profiles:					
Below the 10th percentile, or best 10% (0.0)	Between the 10 <sup>th</sup> and 50 <sup>th</sup> percentile (1.0-8.0)	Between the 50 <sup>th</sup> and 95 <sup>th</sup> percentile (8.0-31.0)		Above the 95 <sup>th</sup> percentile, or worst 5% (31.0 or more)	
A child who has never (had) a problem getting along, working or playing with other children; is respectful to adults, self-confident, has no difficulty following class routines and is capable of prosocial behaviour.	A child with rare problems in the social competence areas.	A wide range of children, varying from (8.0-17.0) those who have occasional problems in getting along or co-operating with other children while working or playing, or following class routines, or self-confidence.	to (17.0 to 31.0) those who have regular minor problems in the area mentioned above, or a serious problem with one of them.	A child with regular serious problems in more than one area of getting along with other children, following class routines, respect for adults and children, self-confidence, tolerance.	

providing our children with the best possible start.” This noble goal was picked up by a score of communities across the country, making its way into programs and coalitions such as the Early Years Action Group in North York, or Project School Ready in Halifax.

Provincial governments have not remained far behind in including readiness to learn at school as one of their priorities. Promoting children’s readiness to learn has found its way into several provincial speeches from the Throne: in New Brunswick, as early as 1994 and in Saskatchewan in March 1999. In British Columbia, supporting all children to ensure that they receive “the best possible start in life, including appropriate early stimulation, socialization and education” appeared in one of the six Health Goals for BC, released in 1996. In the spring of 1998 the government of Alberta established the Children’s Secretariat, which oversees the implementation of the Alberta Children’s Initiative which includes the readiness-to-learn program. At the same time, the premier of Ontario called for the Early Years Study, led by the Hon. Margaret Norrie McCain and Dr. J. Fraser Mustard. This resulted in the release of the Early Years Study Report in April of 1999, a document based in large part on Ontario data, but providing a clear argument why “the time is now for a major effort by all parts of society to improve the opportunities for optimal early child development and parenting for all families.”<sup>22</sup>

An effort to report on the readiness-to-learn status of Canadian children is already under way through the National Longi-

tudinal Survey of Children and Youth (NLSCY). The NLSCY is already providing in-depth knowledge of the correlates of healthy development of children and adolescents. In 1997, in accord with the federal SFT goal, the NLSCY produced a list of indicators of children’s readiness to learn taken from the framework existing in their measurement tools. For several of the five domains deemed relevant to children’s readiness to learn, their instruments supplied many items; for others, there were fewer. Nevertheless the richness of the NLSCY data can provide reliable information on children’s readiness to learn at national or provincial levels. These data, however, are insufficient for purposes of individual communities which wish to mobilize their strength around the issue of readiness and to advocate for improvement of the early years for their children, zero to five years of age.

*The major problem in understanding the concept of readiness to learn at the practical, policy level, lies in translating it into action.*

**Approaches to assessing readiness to learn**

Samuel Meisels summarizes four theoretically based ways of looking at children’s readiness to learn,<sup>3</sup> along with the most appropriate assessment methods associated with each approach. None of these four ways of looking at children’s readiness to learn can be called right or wrong, nevertheless not all of them are entirely appropriate for adoption if the goal set out before us—to provide a comprehensive and useful national report—is to be accomplished.

In the *idealist/nativist* view, readiness can be seen as a within-the-child phenomenon, whereby a child’s readiness for

school is achieved through a maturational process, with little or no impact from the environment (including parents, experiences, etc.). The child’s development proceeds through predictable stages and cannot be altered by external influences. Developmental tests have been designed to measure this understanding of readiness; however, by adhering too strictly to developmental goals, they tended to misclassify too many children as not ready.

The second, *empiricist/environmentalist* view claims that readiness is a set of particular behaviours, skills and personality traits that are basic precursors to school achievements and are easily measured. Therefore, testing should focus on external evidence of what the child can do. This conceptualization of readiness provided a theoretical basis for a number of assessments that tended to be oriented to curriculum or specific-tasks. Unfortunately, as was the case with strict developmental tasks, such tests often resulted in inappropriate classification of many children.

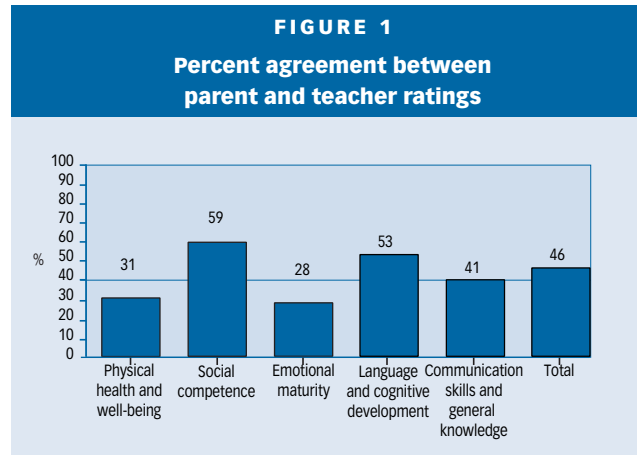
The third approach—*social constructivist*—considers readiness to be defined only with reference to how children’s behaviour and development are supported and what the children should be ready for.<sup>4</sup> Its proponents suggest a community-level measurement strategy, including multiple modes of assessments, multiple respondents, sensitivity to local, cultural and ethnic issues, a balance between positive and negative indicators of readiness, and a willingness for action based on the results. By involving the community, incorporating the context and facilitating interpretation of both positive and negative results with reference to the environment where a child has been reared and where she or he will be educated, this approach provides a comprehensive assessment of a child’s readiness to learn.

Finally, the *interactionalist* view claims that readiness is a relative concept and is the product of a set of educational decisions that are differentially shaped by the skills, experiences and learning opportunities the child has had and the perspectives and goals of the community, classroom and teacher. Assessment of this conceptualization of readiness to learn has to take place over time (a difference from the previous view, which did not emphasize the longitudinal aspect) and in context.

**The Early Development Instrument**

In 1997, the Canadian Centre for Studies of Children at Risk at McMaster University and the Hamilton Health Sciences Corporation, in partnership with the Founders’ Network and the Early Years Action Group in North York, Ontario, undertook a project to develop, test and validate a population-level measure of children’s readiness to learn at school entry.

In view of the commitments on the political scene, an outcome measure of children’s readiness to learn was called for, one that would provide developmentally based (as opposed to curriculum-based) data, applicable in every province, and interpretable at the group level for populations of children. In our endeavour, we did not want to duplicate any existing measures, but rather fill the void created by the demand for a population-level assessment.



One approach to assessing the readiness of Canadian children to learn at school is a combination and modification of the last two theoretically based views listed above. We propose a conceptualization of readiness to learn with the following characteristics:

- a population level measure: results could be interpreted only for groups of children, not individuals;
- based on several months of observation: the instrument is completed by teachers in the second half of the school year;
- offering interpretation of both strengths and deficits within specific context: good and poor results will be interpreted for the communities involved, by providing descriptions of the types of behaviours that may be expected from children scoring in a specific range; and
- involving community mobilization and readiness for action: the instrument will be used in communities which demonstrate willingness and capability to act upon the knowledge gained.

The major problem in understanding the concept of readiness to learn at the practical, policy level, lies in translating it into action. A highly individualized approach will advocate a process in which children identified as “at risk” are targeted early for specific intervention programs. An alternative approach is to identify problem areas for groups of children in a process of population-level assessment, with all interventions having a central universal component. This latter approach appears to be what is currently most needed by communities.

The resulting Early Development Instrument (EDI) is based on the concept of readiness to learn as it is reflected in a child’s preparedness for school.<sup>5</sup> In other words, it is not designed to measure the readiness to learn per se (the degree to which a child’s neurosystem is absorbing and processing knowledge). While school readiness includes physiological maturation, it hinges on development in other areas. Research shows that children who enter Grade 1 with adequate social and communication skills, with the ability to cope with frustration and stress, and with age-appropriate motor, language and cognitive development levels are able to take advantage of learning opportunities offered by the school.

**TABLE 2**  
**Resources available within a short distance from the two schools\***

Resource	School A	School B
	Is it available?	
Day care	Yes, within 1 km	Yes, between 1 and 2 km
Family resource centre	Yes, within 1 km	Yes, between 1 and 2 km
Family support services	Yes, within 1 km	No
Parent support/ Parenting classes	Yes, within 1 km	No
Public library	Yes, within 1 km	Yes, between 1 and 2 km
Toy library	Yes, within 1 km	No
Literacy programs	Yes, within 1 km	No

\*"No" may mean that the service is available but located farther than 2 kilometres from the school, or that it is not available at all.

The EDI measures children’s readiness to learn at school and refers to children’s ability to meet the task demands of school, such as being co-operative and sitting quietly and listening to the teacher, and to benefit from the educational activities that are provided by the school.

The instrument consists of five *domains* (or scales): physical health and well-being; social knowledge and competence; emotional maturity; language and cognitive development; and general knowledge and communication skills, as well as two indicators: special skills and special problems. Teachers, principals, educators and parents were consulted during both the conceptual and content development phases. Preliminary testing of the EDI, which included teachers, parents and direct language testing of the child, demonstrated good psychometric properties and agreement between respondents (Figure 1). A 40 percent level of agreement between parents and teachers is considered acceptable in literature. Further analyzes of validity are ongoing, and results will be available in the summer of 2000.

The EDI provides results on the population level. This means that they are not interpretable for individuals. While a certain level of detail and accuracy may be thus sacrificed, the advantage is an instrument that is less costly to implement and apply to all children in the community. An added advantage is that a negative label cannot be attached to individual children, something about which teachers and parents are always very concerned. Results of the EDI can be interpreted in two ways: by looking forward at how children’s readiness-to-learn levels will have an impact on success at school and what can be done to improve this;



and by looking backward, toward the early years of future cohorts. This latter view supports the improvement of the first five years of life to ensure a positive impact on readiness to learn at school.

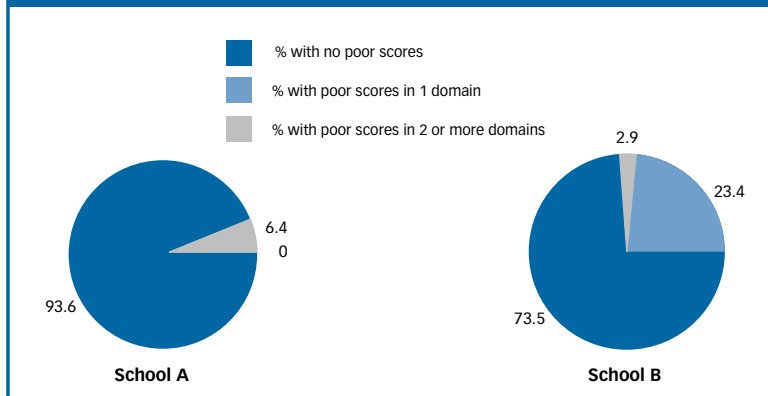
In the 1998/1999 school year, the EDI was implemented in six communities across the country, resulting in data on over 16,500 children. This group included two parts of the amalgamated Toronto District School Board: North York (in partnership with the Early Years Action Group), and Toronto, a selection of schools in the Ottawa-Carleton District School Board, Woodstock School District in New Brunswick, the former West Parry Sound School District, and the Baffin Island School District in Nunavut. More communities are administering the EDI in the 1999/2000 school year, some of them through federal or provincial partnerships. The number of students for whom the EDI is being completed grew from the 16,500 last year to close to 50,000 in 1999/2000; in the same time period, the number of communities increased from six to 16. More and more communities across the country are expressing an interest in administering the EDI.

Communities that participate in the project receive a detailed report on the specific scale scores for students in their schools. While we are unable as yet to provide cut-offs above which children should be deemed as not ready for school (indeed, experts in the field argue strongly against setting such levels), we provide schools with information to interpret the results. The results are divided into percentiles for each scale, and descriptive behavioural profiles are attached, drawing a picture of an average child with EDI scores falling in a specific range. An example of such a description is given in Table 1. Some communities request specific analyzes to be provided based on their EDI results, which then assist them in assigning, reallocating or rethinking of resources and services within the context of their particular environment. We expect that as the project grows further we will be able to develop written materials for communities and teachers to guide intervention initiatives based on the pattern of results from the EDI, and to evaluate the effectiveness of these interventions.

In the wider scale, the community has access to the information on children’s school readiness-to-learn scores by specific neighbourhoods. Beginning in this school year (1999/2000), students’ postal codes are part of the database. This will enable us to produce summaries of results by school (if the schools so wish) or by neighbourhood, which will provide a more accurate picture of a geographic area, as well as more information for the mobilization of resources for community agencies and residents.

The North York part of the Toronto District School Board has carried out an additional component—the Community Mapping Study (or CMS). Funded by Human Resources Development Canada, and to be repeated in five more communities which form the Understanding the Early Years Initiative, the CMS collects information on character-

**FIGURE 2**  
**Percentage of students with poor EDI scores**  
**in one or more domains**



istics such as total population, proportion of children, presence of child-care and family resource facilities, average household income, etc., grouped by enumeration areas. Patterns of results from the EDI can then be matched to neighbourhoods or school catchment areas with data on the above-mentioned characteristics, thus enriching the knowledge base for communities. Availability of data on existing services, programs and demographics of neighbourhoods can assist in interpreting current readiness-to-learn profiles, as well as in planning changes.

The following is a simplified example of such an analysis. Two schools, A and B, are located in the same large city of North York. The EDI results in all five domains are widely different, with students in School A having some of the best scores in Toronto, while students in School B, some of the worst. In the absence of cut-offs for each scale, we chose district-wide percentile boundaries as indicators of poor outcomes. Students whose scores fall in the worst five percent of the whole population are very likely to have problems at clinical levels. Such likelihood is even greater for students who have scores in the worst five percent in two or more domains. In School A, over 90 percent of children had no serious problems, and the remaining six percent had a problem in one domain. In School B, about 73 percent had no problems, and as many as 23 percent had problems in two or more domains (Figure 2). What types of resources are available in the neighbourhoods of these schools? We selected seven with the greatest relevance for early child development: day-care, family resource centres, family support services, parent support/parenting classes, public library, toy library and literacy programs. As Table 2 shows, all of them are available on the spot, or within one kilometre from School A, while only three out of seven are between one and two kilometres from School B.

It would be too simplistic to claim that these differences in resource availability explain all the differences in children's readiness to learn. Nevertheless, the above example demonstrates clearly how the EDI results can provide a tool for mobilizing a community to action. For example, the neighbourhood in which School B resides might choose to create an early child development and parenting centre that

would provide play and early literacy resources for young children as well as social and educational support for their parents. This would address the needs of future cohorts of five year-olds coming from this neighbourhood. In addition, to help improve the current levels of children's cognitive and social competence, after-school programs, with active pursuit of high-risk children and good record-keeping might be created for children in School B.

**Conclusion**

In conclusion, let us return to the concept of readiness to learn. The approach taken in our project emphasizes the relevance of a local community's willingness to act in order to improve the lives of children from zero to five years of age. As stated by Love *et al.*, to assess and understand children's readiness to learn, the child's environment has to be taken into account. The strength of the EDI lies in the fact that the results apply to all children in the community. Thus, interventions based on the results of the EDI have to reflect the needs of all children and not only those targeted as being at increased risk. For the same reason, it provides a unique opportunity for designing interventions for community-specific needs.

Regular monitoring of EDI scores will give communities a knowledge base for interventions, and it is hoped that this will improve outcomes for all young children in communities. The EDI provides a comparable and feasible measuring stick for all children, a measuring stick that is anchored within the community. On a short-term basis, it standardizes information about children's readiness for school in five essential developmental areas and provides it in a manner easy to interpret and act upon. In the longer term, it provides a prerequisite for prevention at the population level for children zero to five years of age, and can be used to monitor the effectiveness of early interventions.

Regular monitoring of EDI scores will give communities a knowledge base for interventions, and it is hoped that this will improve outcomes for all young children in communities. The EDI provides a comparable and feasible measuring stick for all children, a measuring stick that is anchored within the community. On a short-term basis, it standardizes information about children's readiness for school in five essential developmental areas and provides it in a manner easy to interpret and act upon. In the longer term, it provides a prerequisite for prevention at the population level for children zero to five years of age, and can be used to monitor the effectiveness of early interventions.

**Magdalena Janus** is a Research Associate and Project Director and **Dan Offord** is the Director of the Canadian Centre for Studies of Children at Risk, McMaster University.

**Endnotes**

1. R. Shore, *Rethinking the Brain: New Insights into Early Childhood Development* (New York, New York: Families and Work Institute, 1997).
2. Co-chairs: Hon. Margaret Norrie McCain and J. Fraser Mustard, *Reversing the Real Brain Drain: Early Years Study Final Report* (Toronto: Government of Ontario, April 1999). References to all provincial initiatives can be found on provincial governments' Web sites.
3. Samuel J. Meisels, "Assessing Readiness," in R.C. Pianta and M.M. Cox (eds.), *The Transition to Kindergarten* (Baltimore, MD: Paul H. Brookes, 1999), pp. 39-66.
4. J.M. Love, L.A. Aber and J. Brooks-Gunn, *Strategies for assessing community progress toward achieving the first national educational goal* (Princeton, NJ: Mathematica Policy Research, Inc., 1994).
5. Gillian Doherty, "Zero to Six: The Basis for School Readiness," Research Paper R-97-8E (Ottawa: Human Resources Development Canada, Applied Research Branch, March 1997).