

Measuring Community Early Child Development

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Canadian Association of Principals Journal, 2006, 14 (3).

The Early Development Instrument (EDI) was developed in response to the growing need to monitor status of child development at the cusp between the early years and school entry. The EDI is a teacher-completed checklist, containing just over 100 core items grouped into five developmental domains:

- Physical health/well-being - includes gross and fine motor skills - e.g., holding a pencil, running on the playground, motor coordination, and adequate energy levels for classroom activities.
- Social knowledge and competence - includes curiosity about the world, eagerness to try new experiences, knowledge of standards of acceptable behaviour in a public place, ability to control own behaviour, cooperation with others, following rules, and ability to play and work with other children.
- Emotional health/maturity - includes ability to reflect before acting, a balance between too fearful and too impulsive, and ability to deal with feelings at the age-appropriate level, and empathic response to other people's feelings.
- Language and cognitive development - includes reading awareness, age-appropriate reading, writing and numeracy skills, board games, and ability to understand similarities and differences, and to recite back specific pieces of information from memory.
- Communication skills and general knowledge - includes skills to communicate needs and wants in socially appropriate ways, symbolic use of language, story telling, and age-appropriate knowledge about the life and world around.

Additional questions collect information on children's demographics (gender and date of birth), type of class attended, special needs and Aboriginal status. The final set of questions is dedicated to the child's history prior to school entry, including participation in any intervention programs, child care, preschool etc. There is space for up to five questions customized by a community.

School Readiness and Ready to Learn

For the purpose of the monitoring function, school readiness is conceptualized in the EDI as a proxy for a holistic view of outcomes of the child's early years, within the context of family and neighbourhood. Therefore, at a population level, it is intended to capture the status of children's early development in the context of that child's community.

Children are born ready to learn; their neurosystem has plenty of opportunity within the first stages of life, starting from utero, to develop the connections – or lose them. Without costly brain scans, it is not possible to assess the extent to which their brain has been developing. However, when operationalised as child readiness for school, the outcomes of early development are measurable.

Readiness for school differs from readiness to learn in that it is a much narrower concept, focused on the child's ability to meet the task demands of school, such as:

- being comfortable exploring and asking questions,
- being able to hold a pencil, and run on the playground,
- listening to the teacher,
- playing and working with other children,
- remembering and following rules.

These and other similar abilities make it possible for children to benefit from the educational activities that are provided by the school.

School readiness, understood as the child's ability to meet school tasks, can be used as an indicator of children's health in a community, because it: 1) reflects a broad concept of developmental health, 2) provides a population-level indicator, and 3) is useful at many levels. Unlike the commonly used "school readiness" screens, the EDI covers all the relevant aspects of child development, not just cognitive skills.

More targeted approaches address the needs of children at particular risk of having educational problems, but recent data suggest that about half of children with difficulties in kindergarten could not be easily identified prior to school entry based on the most common risk factors (e.g., low socioeconomic status or health problems). A population-level database includes all children, regardless of their known risk factors (or lack of them) in painting a picture of a community's well-being as reflected in the developmental status of children. The EDI's usefulness stems from both the wide coverage, and population-level implementation. Therefore, its results can be used to highlight areas of strength and weakness in neighbourhoods, thus allowing for planning for resources, as well as for analyzing patterns of outcomes in relation to other data available for the community.

Development and Use of EDI in Canada

The EDI was first piloted in 1998 in three sites in Southern Ontario. In the subsequent two years, it was modified and used for over 40,000 children across Canada. The EDI items were finalized in 2000. Since then, the EDI has been a part of the federal Understanding the Early Years initiative, as well as several provincial initiatives. The EDI has been used in all Canadian provinces; currently, British Columbia, Manitoba and Ontario have full coverage. The Canadian EDI database includes over 400,000 senior-kindergarten level children, and about 50,000 junior-kindergarten children. The EDI has been translated into three languages in addition to English and French (Spanish, Albanian, and Dutch), and used in seven other countries, including Australia. The first Australian implementation happened in 2002. Since then, the project had encompassed more than 60 communities in a three-year federally-funded rollout.

The EDI's reliability and validity is monitored on an ongoing basis. Analyses demonstrate that its structure is robust and that the validity is acceptable (Janus & Offord in press). The EDI is collected for individual children, and it correlates reliably with other similar measures of child development, as well as predicts outcomes. However, it

is not designed to be a clinical or diagnostic tool. The EDI's strength is in aggregation of individual data to the group level, reported in association with other sources of data related to children, families and communities.

Some of the most consistent results using the EDI demonstrate that, on average, boys have poorer outcomes than girls, older children have higher scores than younger children, and children for whom the language of instruction is not their first language are not doing as well as those for whom it is not. Moreover, if the EDI data are collected for groups of children on whom additional information is available, it is possible to demonstrate differences between neighbourhoods and between children who attended programs prior to school entry.

Community Early Child Development Reporting

Communities in Canada and elsewhere are finding value in the EDI beyond its information on early child development. It is proving to be a mobilization tool, a means of starting or continuing a dialogue among partners and agencies with interests vested in healthy child development. Schools are obvious partners in such conversations. Yet, historically it had not always been straightforward to engage providers of early childhood services and schools in meaningful dialogues. There is evidence to suggest that transition to school is often difficult for all sides: children, families, and kindergarten teachers due to the differences in approaches. One of the additional aspects of the EDI is that it brings into relief the needs of children and allows the different partners to focus on their similarities.

In particular, it is crucial for schools to have a picture of the developmental status of children who come in. Certain patterns can be predicted simply by knowing the demographics of the population from which the school draws its students, like a high proportion of children with an ESL status in areas where there are large numbers of immigrant families. Nevertheless, these children do not necessarily follow the stereotypes. Children who grow up in a home where the language of instruction (English or French) may not be spoken, but reading and literacy are part of a child's upbringing, will fare better – after perhaps an initial transition difficulties – than children who spoke English or French, but did not grow up in an environment promoting literacy and healthy socio-emotional development. Having an indicator of children's developmental health at school entry is equally relevant as an awareness of the risk factors – in fact, it is the two together that make the most meaningful picture. For example, an area rich in immigrant families may contribute to school children who will struggle with the language of instruction, but have strong social and emotional skills. On the other hand, an area that appears to have high socioeconomic advantage, and thus, on average, likely to have a low proportion of children with problems, may contribute disproportionately high numbers of children with difficulties. These somewhat unexpected patterns are powerful for schools in terms of future planning. A comprehensive indicator of child development status for the population of children who are beginning grade one is useful both in taking stock of the status of the population that feeds into the school, and in looking towards the future in planning for further grades. Moreover, in view of the common academic testing in later

grades, it is important to know how far – or how close – a cohort of children went during their first three or four years of life to get to that point.

There is evidence that most children learn at school at the same pace, regardless of where they started from. This suggests that gaps that may exist between groups of children at kindergarten, will be there for the rest of the children's school career. With the currently increasing knowledge of children's developmental trajectories, it is not an overstatement to say that the roots of the high school dropout rates lie in kindergarten – or perhaps even earlier than that. A robust, holistic indicator of children's developmental health status at the entry to formal education may provide one crucial step towards lowering that rate, and thus ensuring that more children have a chance to grow up to become healthy and productive adults.