

Quality in Early Learning and Care in Ontario: Measuring UP?

Quality in Early Learning and Care in Ontario: Measuring UP? aims to increase knowledge and public policy dialogue about age-appropriate outcomes for children's development and about the tools and approaches that are available both in Canada and abroad to measure and enhance those outcomes. Related to this is the measurement of early learning and child care settings in context of family and communities. *Measuring UP?* intends to encourage dialogue about quality early learning and child care (ELCC) in Ontario, focussing on the role of early childhood practitioners in using measurement to inform their practice and create the possible environments for young children and their families.

The Ontario Coalition for Better Child Care (OCBCC) is connected with the diverse components that make up the early learning and child care community and is aware of need for coordinated and accessible information on what appropriate outcomes for different age groups are, how best to measure them and how to improve them.

The Measuring UP initiative included a background literature review, ELCC community consultations, survey and a conference.

Background Literature Review

In the first stage of the project, a literature review (see Appendix 1) of current knowledge on how to measure early child development was completed. The literature review of early childhood measurement addressed three questions:

- What do we want to measure?
- Why do we want to measure? What is the purpose of measurement?
- Which measurement tools should we use?

The literature review identifies and discusses major measurement initiatives now underway in Canada and internationally that are related to ELCC. It establishes a framework of measurement approaches to shape a dialogue in the ELCC community in Ontario. The review considers efforts across Canada and around the world that measure early child development outcomes and the quality of early environments. Projects are developing standards, indicators, and assessment tools to assess children and program readiness and to foster more effective policy advocacy and planning in ELCC. Other initiatives identify individual children with developmental delays. Still others gather

administrative data to assess the inputs that are associated with child outcomes. Curriculum development initiatives across Canada will monitor children’s development and their environments to enhance programming in ELCC programs through curriculum-assessment alignment.

The review aims to clarify the purposes of measurement and approaches and organize different categories of measurement to support OCBCC’s dialogue with ELCC communities across Ontario. The framework for the literature review was based on a preliminary scan of recent literature on ELCC measurement and a short survey of the perspectives of the Measuring Up Advisory Committee. The terms ‘assessment’, ‘evaluation’, ‘monitoring’ and ‘measurement’ are often used interchangeably. This literature review will categorize early childhood *measures* into three broad categories:

- *assessment* of child progress and outcomes,
- *evaluation* of ELCC programs; and,
- *monitoring* of community and population impact

This review considers what is being measured for what purpose as essential discussion points before selecting specific measurement tools. The draft review includes recommended questions to guide the OCBCC’s dialogue in communities. An overarching question is “how well” measures and measurement schemes work. The appendices provide a description of the methodology used to review the literature and information about specific measurement tools for assessment, evaluation and monitoring. The selected examples illustrate tools that could be relevant in the Ontario context. How children learn and develop is complex. Designing measures and methods for assessing growth and development and evaluating program quality are complex tasks. Taking stock of how children are doing is a first step. But early child development measurement must extend beyond monitoring human development to understanding the multiple factors that influence that development. Measuring early child development includes assessing ongoing developmental progress and outcomes, evaluating children’s environments and monitoring the impact of various early environments, on the development of all children in local communities and across the province.

A series of questions about the broad goals of measuring will help to frame the conversation in Ontario. Counting heads or discrete measures of task achievement may be easier than grounding measurement in a holistic understanding of childhood and in the intersection of the multiple environments of children’s daily lives. But without a clear

understanding of why we are measuring children and their environments, it is difficult to know what to measure and how to do it.

What do we want to measure?

- What is important? What is valued? What is the image of the child?
- What principles should be in place to guide measurement?

What is the purpose of measurement?

- What decisions will be made on the basis of the measurement? Results of individual level assessments are only applicable to an individual child. If child assessments are to be used to make decisions about an individual child, more information is needed than if results are to be aggregated and only used at a group level. In contrast, group-level assessments (usually aggregated individual level assessments) are used for making decisions at a broader level such as the school, community, state or country, regarding policy, evaluation, and planning.

What measurement tools should we use?

- Was the measure developed locally or adapted from another country or cultural context? All measurements should be culturally relevant for the target population and represent agreed upon definition and concept of what child outcomes are important. If instruments are adapted from one country to another, they should first be pilot tested on socio-economic and regionally diverse samples of children in the region of interest.
- Does the measurement tool provide information about what we want to measure?

How well is measurement working?

- Are practitioners seeing their evidence of success for children's progress in their formative use of child assessment?
- Are results being shared with all relevant stakeholders so conditions and outcomes improve for children
- Are practitioners trained in the competent and critical use of assessment, evaluation and monitoring?
- Are the tools chosen appropriate for the measurement purpose; are they reliable and valid
- Are the costs and benefits of measurement schemes being weighed in local investigations.

Measurement can be helpful at many levels but is always a means to an end, not an end in itself. Making it work starts with picking or designing the right tool for the intended purpose. How it's working and how it can be improved should be constant questions for practitioners and for policy makers.

Consultation with Early Learning and Child Care Communities

In the second stage two of the project, findings of the literature review informed a dialogue within ELCC communities and with policy makers about the most appropriate way to use measurements to enhance outcomes for children 0 to 6 years old who are enrolled in ELCC programs. Early childhood practitioners and policy makers were asked what measures are working and to reflect on how well the measures were working and if they actually improved children's outcomes or early learning environments. A summary of the literature review and three fact sheets (see Appendix 2) were prepared for broad distribution throughout the consultation period.

During 2006-07, the OCBCC conducted community consultation sessions to discuss quality in early learning and child care programs. Between November 2006 and May 2007, ten sessions with a total of 199 participants were held across the province:

- OCBCC Council and Executive in Toronto - 15 participants
- Waterloo Child Care Supervisors Network in Cambridge - 30 participants
- Early Childhood Resource Teachers Network Ontario in Waterloo - 45 participants
- CCAN Conference in Toronto - 15 participants
- Peterborough CCAN - 20 participants
- Stratford-Perth County CCAN - 6 participants
- Ottawa CCAN - 6 participants
- Ottawa CCAN - 6 participants
- Sudbury ELCC community - 6 participants
- Kitchner-Waterloo Habilitation - 50 participants.

The sessions provided another opportunity to find out what measurements are currently being used in different regions of the province.

The consultations sessions were structured around four questions:

- What does quality mean?
- What is quality early learning and child care?

- How do you evaluate your program?
- What do we want for children in early learning and child care programs?

Participants were also asked to complete a survey and to provide basic demographic information.

The consultation discussions highlighted:

- Variety of approaches currently in use
- Consensus that program evaluation approaches were more appropriate measure of quality than child assessments.
- Emphasis on early childhood practitioners as central to quality and concerns about shortage of qualified ECEs
- Concerns about asking for increased accountabilities related to quality without additional funding

Survey

The online and hardcopy survey was completed by 123 respondents, representing ELCC programs and regions across Ontario. The survey questions are in Appendix 3 of this report.

The majority of respondents (almost 80%) indicated that they were using some form of quality measurement in their programs. Approximately 2/3rds referenced a program evaluation tools and 1/3rd referenced a child assessment tool such as the Nipissing District Developmental Screen or a child development checklist. Forty-two % reported using parent evaluations

Respondents identified program planning as the primary purpose of program evaluation or child assessment. Time is identified as the most significant challenge in implementing measurement approaches in ELCC settings.

Measuring Up Conference - June 9th, 2007

Thirty participants from across Ontario attended the Measuring Up conference held in Toronto on June 9th, 2007. Participants included municipal administrators responsible for child care service delivery, early childhood education college and university faculty, child care supervisors and frontline staff. A participants reviewed the project findings to date, considered four regional examples of quality measures currently in use in Ontario and developed a set of recommendations to move forward.

The presentations were:

- Quality Child Care Niagara (QCCN) – Niagara
Jane Gouck and Pat Eversden, QCCN Advisory Committee,
- Program Quality Indicators – Sudbury
Tracy Saarikoski, Teddy Bear Day Care
- Quality Assurance Project – Thunder Bay
Marnie Tarzia, Thunder Bay District Social Service Administration Board
- Accreditation Benefits Children – Ottawa
Kim Hiscott,
- Early Childhood Resource Teachers Network of Ontario Checklist for Quality -
Susan Kellsey, Kitchner-Waterloo Habilitation Services

The speakers presented information on the development, implementation and use of quality assessment and measurement tools that have been developed locally and are in use across their own regions.

Common experiences emerged in the presentations and related discussions. The quality measurement approaches assist programs in operationalizing region-wide and individual program mission statements. Each approach has included support for early childhood staff to discuss quality related issues (for example, program/staff dynamics and impact on quality) among themselves which appears to be more effective than simply completing checklists or filling out forms. An effective quality measurement tool is one that stimulates staff reflection on their practice and encourages dialogue with each other. Staff buy-in and commitment to quality approaches is central to their success use.

Participants discussed the issue of multiple quality measurement tools and approaches in use across the province. It was noted that most DSAABs and CMSMs have developed or adopted quality measures that for use in licensed child care centres that are publicly operated by municipalities or who have a purchase-of-service agreement. The group concluded that a province-wide quality framework might offer a more coherent approach and allow for collaboration among communities, it is also important to recognize where ELCC communities are at and begin to study what is working. A long-term goal may be a

more common province-wide approach particularly if the newly released curriculum framework is adopted (Best Start Early Learning Panel, 2007) and there is a move towards consolidated legislation for early childhood programs. Participants agreed that a province-wide approach would probably need to follow the example of the curriculum framework and provide a guide that leaves local regions able to select specific tools and reporting structures. In the meantime, ELCC communities should be encouraged to consider quality measures and have access to information about what is available. Once a region has selected a particular approach, there is value in staying the course so that the ELCC community becomes familiar with it and is able to gain experience in its implementation.

Concerns were shared about the validity and reliability of some of the measurement tools currently in use. Are they effective in changing practices and improving ELCC program quality? Participants noted that it seemed that initial enthusiasm and commitment to the design and implementation of a quality measure and the related attention to reflecting on quality issues may make a difference. However, once the approach and tools become broadly used, the creative enthusiasm may be missing and the process of implementing the tool itself may not be making any difference in the daily physical and social environment. Because the program is deemed to have met the quality measure, it is assumed to have a measure of quality that may not be present. Several individuals suggested the need to have an empirical study of a variety of program quality measures that have completed an initial development and implementation phase.

The June 2007 conference concluded that the first step to developing a more coherent province-wide approach is to set up a clearinghouse for sharing information about who is using what, and what the benefits and challenges are. The OCBCC could take the lead as the next step of the Measuring Up initiative. One caveat emerged - if the OCBCC becomes associated with a focus on ELCC quality, it may attract Council representatives who are not interested or not able (due to professional affiliations) to take part in advocacy activities.

Possible next steps:

- Set up a Provincial Quality Network to further study ELCC program quality including regional differences, impact of links of quality to funding, further develop an provincial inventory of who is using what,

- Establish a website that compiles information about tools, resources, training opportunities with links to regional/municipal quality contacts
- Complete an environmental scan of what each CMSM or DSAAB is doing, perhaps through OMSSA contacts and re-evaluate next steps.
- Establish an intersectoral Advisory Group on Quality with representatives for each ELCC and related sector.
- Support a study of quality in ELCC programs that identifies elements required (including time and funding) and establish the real cost of quality.

‘Made-in-Ontario’

The initial background literature review identified The survey, community consultations and conference expanded the inventory of measures currently in use across the province.

1. Quality Child Care Niagara

The Quality Child Care Niagara (QCCN) model is designed to enhance the quality of licensed child care program in Niagara region and to ensure individual developmental programming. QCCN provides a baseline of tools that includes a developmental preschool screen, environmental rating scales, speech and language checklist, behaviour checklist and parent survey.

2. Program Quality Indicators – Sudbury

The Program Quality Indicators (PQI) was designed by ELCC supervisors and the City of Greater Sudbury to ensure quality in child care services and to assist ELCC programs in evaluating, planning and implementing operational goals. It includes quality benchmarks that are used to assess program quality. The PQI is conducted by the Children Services Program Quality Coordinator who assists the program staff in rating their programs.

3. Quality Assurance Project – Thunder Bay

The Quality Assurance Project in Thunder Bay is based on best practices related to people, program and the environment. The DSSAB provides funding for a program coordinator to facilitate quality measurement. The process is based on *Measuring Performance* (Elliot, 2002) and use of the Early Childhood Environment Rating Scale. *Measuring Performance* a self-assessment guide for early childhood educators that is based on a set of best performance standards developed from professional knowledge, research and experience.

4. Accreditation Benefits Children – Ottawa

In Ottawa Accreditation Committee is working towards the development of an effective accreditation process for ELCC programs in the Ottawa region. The group examined three existing sets of standards including those in the National Association for the Education of Young Children Accreditation, the Ontario Day Nurseries Act and the Canadian Child Care Federation's Occupational Standards for Childcare Practitioners. The Ottawa accreditation project includes standards in eight areas: administration and scheduling; curriculum; evaluation; health, safety and nutrition; interactions between ECEs and children; physical environment; qualifications and professional development; and relationships with families and communities.

5. Checklist for Quality Inclusive Education

The Early Childhood Resource Teachers Network of Ontario have prepared the Checklist for Quality Inclusive Education (CQIE). The process of creating the CQIE began in November 1996, when an advisory committee of early childhood educators, family members, administrators and early childhood education training faculty with a background in diversity education and special needs inclusion met to consider best practices in inclusive care and education. The content and format of the CQIE were developed with input from this advisory committee. Educators across Canada reviewed draft forms and made recommendations for revisions.

It is used by ELCC programs to assess how inclusive their practices are. The CQIE identifies and measures observable practices that define the optimal level of inclusion in early childhood education programs. The CQIE is an evolving self-assessment tool that is made available by the ECRTNO on their website (www.ectrno.ca).

6. Raising the Bar

Raising the Bar on Quality is a tool to enhance quality in licensed child care centres that was developed in Hamilton, Ontario and is now in place in several regions across Ontario. It is a voluntary, annual community accreditation program that assesses levels of quality achieved in three categories: quality assurance, best practices and staff professional development. Bronze level programs follow fundamental quality indicators and are in full compliance with the Ontario Day Nurseries Act. Silver level programs have additional strategies to enhance quality. Gold level programs demonstrate a long-term commitment to high quality early childhood environments. Raising the Bar on Quality builds on the strengths of local child care communities, is sustainable without additional financial resources and works in combination with other program evaluation tools (including ECERS-R or PQA). Participating communities can adapt or modify the

standards to ensure the program will be achievable and sustainable in their regions. An qualitative evaluation of Raising the Bar and other quality enhancement strategies reported positive feedback from frontline staff and supervisors in the Hamilton area (City of Hamilton & Public Health Services Department, 2006).

Several regions across Ontario have adopted Raising the Bar.

7. City of Toronto Operating Criteria

The City of Toronto's Operating Criteria outline clear expectations, service standards and guidelines to child care providers with a service contract and to directly-operated programs. It is used by Children's Services Consultants to measure quality and contract compliance. It is also a self-evaluation and planning tool for ELCC programs.

In 1997, the Operating Criteria developed into a checklist format that supported operator self-assessment and promoted a continuum of quality improvement. Between 2004 and 2006, Toronto Children's Services embarked on a complete review of the Operating Criteria. A two-year comparative research project between the Operating Criteria and the Harms and Clifford Environmental Rating Scale guided the revision, and helped determine that an assessment using the revised Operating Criteria would be a reflection of the quality within a child care program. The resulting 2007 edition of the Operating Criteria is a streamlined document based on a 1 – 4 progressive measurement scale. Sections related to health and safety, human resources, interactions, parent involvement and inclusion have been embedded within the core components that have been expanded to include financial management and community partnerships.

8. Preschool Program Development Instrument

The Kingston Frontenac Early Learning and Child Care 2004 - 2005 Service Plan included the School Readiness Pilot Project which developed the Preschool Program Development Instrument (PPDI) for use in all licensed child care centres in the Greater Kingston area. The PPDI is a developmental checklist that is accompanied by programming tools to support its application as an assessment tool and as a source of information for programming.

Conclusions:

The Measuring Up initiative demonstrated broad enthusiasm for discussing quality in ELCC settings across the province. Municipal managers, program managers and frontline staff recognize the value of a consistent approach to measuring quality and

using the information to improve programming, ensure inclusion of all children, and provide reasonable work environments for program staff.

Options for a consistent way of measuring quality across the province emerged that could contribute to a province-wide template. However, the starting point must take into account the current use of measurement approaches. Most regions have now instituted a consistent approach to the measurement of regulated child care programs that are operated by municipalities or that have purchase-of-service agreements. Some are using standardized tools such as the Early Childhood Environmental Rating Scale (ECERS) and others are adopting and adapting ‘made in Ontario’ measures. Several are incorporating specific child assessment tools.

References:

Best Start Expert Panel on Early Learning (2007) *Early Learning for Every Child Today*. Toronto: Government of Ontario

City of Hamilton & Public Health Services Department (2006) *Healthy Child Care Environment Report*. Hamilton, ON.

Elliott, B. (2002) *Measuring Performance: The Early Childhood Educator in Practice*. Albany NY: Delmar Thomson Learning

A REVIEW OF THE LITERATURE

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The *Quality in Early Learning and Care in Ontario: Measuring Up!* project began with a preliminary review of the academic and professional literature about the measurement of child development and early learning and child care (ELCC) programs. The findings of the preliminary literature review informed the dialogue within the ELCC community in Ontario and with policy makers about the most appropriate way to use measurements to enhance the development of children 0 to 6 years who are participating in ELCC programs.

The literature review of early childhood measurement addresses three questions:

- What do we want to measure?
- Why do we want to measure? What is the purpose of measurement?
- Which measurement tools should we use?

A fourth question for ongoing reflection by practitioners and policy makers is also considered:

- How well are the measures working? Do they improve outcomes and environments?

The literature review identifies and discusses major measurement initiatives now underway in Canada and internationally that are related to ELCC. It establishes a framework of measurement approaches to shape a dialogue in the ELCC community in Ontario. The review considers efforts across Canada and around the world that measure early child development outcomes and the quality of early environments. Projects are developing standards, indicators, and assessment tools to assess children and program readiness and to foster more effective policy advocacy and planning in ELCC. Other initiatives identify individual children with developmental delays. Still others gather administrative data to assess the inputs that are associated with child outcomes. Curriculum development initiatives across Canada will monitor children's development and their environments to enhance programming in ELCC programs through curriculum-assessment alignment.

The review aims to clarify the purposes of measurement and approaches and organize different categories of measurement to support OCBCC's dialogue with ELCC communities across Ontario. The framework for the literature review was based on a preliminary scan of recent literature on ELCC measurement and a short survey of the perspectives of the Measuring Up Advisory Committee. The terms 'assessment', 'evaluation', 'monitoring' and 'measurement' are often used interchangeably. This literature review will categorize early childhood *measures* into three broad categories:

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- *monitoring* of community and population impact

This review considers what is being measured for what purpose as essential discussion points before selecting specific measurement tools. The draft review includes recommended questions to guide the OCBCC’s dialogue in communities. An over-arching question is “how well” measures and measurement schemes work.

1. Methodology

Three recent Canadian reviews of early learning and child care studies (Cleveland, Corter, Pelletier, Colley, & Bertrand 2006; Canadian Centre for Knowledge Mobilization, 2006 & Gardner, Vine, Molly, & Irvine-Goulet, 2005) were central to the initial identification of specific measurement tools, reports and approaches that are summarized in this review.

Electronic indexes, accessed through the University of Toronto Library System, were keyword-searched to identify important studies dated 1996 or later. These electronic indexes included ERIC, Psych Info, Wilson Education, Medline, Google Scholar, and Scholars Portal (Social Science). Search terms were combinations of early childhood/ preschool/ child care/ childcare/kindergarten AND assessment/evaluation/screening/early identification/early childhood/ preschool/ child care/ childcare/kindergarten OR program quality/ECERS/ environment/effectiveness/program standards/program evaluation. Other sources include research and data bases at the Childcare Resource and Research Unit at the University of Toronto. More than 2000 hits were reviewed and the potentially most relevant items were entered into a shared on-line RefWorks database maintained through the University of Toronto Library System.

In addition to items found in the electronic sources, other items were added by scanning reference lists in review articles and from lists we have compiled in other research projects on child care, kindergarten, parenting programs, and integrated services in early childhood. References that predated 1996 were included when they were relevant to the development of specific measures or represented seminal contributions. Particular attention was paid to Canadian references in all stages of the search. In addition to the academic literature, the review considered articles in Canadian professional journals, reports and websites.

Documents were reviewed to identify measures used for assessment, evaluation or monitoring of early learning and child care programs. Selected child assessment and program evaluation measures were ones which meet generally accepted psychometric properties reported in the academic literature.¹ Measurement used to monitor community or population early child

¹ Psychometrics is the field of study in the social sciences that deals with the theory and technique of measuring individuals’ knowledge, abilities, capacities, competencies, attitudes and personality traits. It

development often uses individual assessment and evaluation measures as well as demographic and epidemiological data gathered through large scale surveys, surveillance systems, program administrative data and census data which meet sampling standards.

After additional culling for relevance, approximately 250 items remained in the database (and listed in the bibliography of this report). From these, based on review of content from published abstracts, over 50 were selected as the major references to be reviewed to establish an overview of ELCC measurement instruments and their application in studies and reports. These references are listed at the end of this document, in the reference section. Full manuscript versions of key items were reviewed after being electronically downloaded or collected from library, CRRU, or personal collections.

One very large current research area that is beyond the scope of this review is the literature on screening and identification of clinical and health problems and disabilities. Some observers have attributed the growth of this literature in the 1990s to federal regulations in the US linking funding to identification.

2. Assessment of Child Progress and Outcomes

The assessment of child progress and outcomes measures aspects of child development. *What* is measured about child development is influenced by what is valued about children and beliefs about how children learn.

Measures of child outcomes typically focus on aspects of the traditional developmental domains of cognitive, linguistic, social, emotional and physical development. Ongoing measures of child progress in programs have emphasized learning, language and social skills. Additional domains and dimensions (e.g. spiritual, creative, learning styles) may be included and specific areas within the broad domains may be emphasized (e.g. gross and fine motor, listening and speaking, gender and ethnic identity). Assessment of the cognitive-language realms sometimes includes pre-academic skills and knowledge in reading, writing, numeracy, and science. Some assessments take into account the child's context including gender, family demographics and characteristics, number of children, ethnicity, citizenship status and caregiving arrangements.

considers the construction of instruments and procedures for measurement. A valid assessment is one which measures what it is intended to measure. Reliability relates to the consistency of an assessment. There are many different forms of reliability and validity . A good assessment of child outcome or program quality is one that has been demonstrated to be both reliable and valid for the pupose and context for which it is used. Recently, standardized tests for school age children have also been held up to a third standard in which individual items have been reviewed to eliminate bias against groups of children (Popham, W. James. 2004, *Classroom assessment : what teachers need to know* 4th ed. Toronto: Allyn & Bacon). There is relatively little empirical information on this aspect of measurement in the early childhood literature.

Measures of children’s development are the core of early assessment. Going back a century and a half, there is a long tradition in early childhood practice of coming to know the child through direct observation in order to understand and support individual development. In more recent times, this practice was challenged by standardized tools for measurement and most recently by post-modern views that shun objectifying the child (for example, Pacini-Ketchabaw & Pence, 2005). Currently in early childhood assessment no single view predominates, but there are major developments on the Canadian and international scene that may affect policy and the everyday lives of practitioners and children. The review considers some of these developments and the research evidence that relates to them in the following sections. Some of these developments relate to “new functions” of early assessment such as determining whether children are on the right track to succeed in “standards-based” education or whether they are “ready” for school. Closely related is the “more traditional function” of “early identification” for children who have special clinical or educational needs. In this era of evidence-based services, child outcomes are more and more a focus for studies of program efficacy or quality. The goal of supporting children’s development through documentation and authentic assessment in context is very much alive philosophically but is not a “hot topic” for research.

Across these different functions of child assessment, measures of child progress and outcomes typically focus on aspects of the traditional developmental domains of cognitive, linguistic, social, emotional and physical development. Additional domains and dimensions (e.g. spiritual, creative, learning styles) may be included and specific areas within the broad domains may be emphasized (e.g. gross and fine motor, listening and speaking, gender and ethnic identity). Assessment of the cognitive-language realms sometimes includes pre-academic skills and knowledge in reading, writing, numeracy, and science. Some assessments take into account the child’s context including gender, family demographics and characteristics, number of children, ethnicity, citizenship status and caregiving arrangements.

2.1 Observation and Documentation

The most common assessments of children’s learning and development in early learning and child care settings are observation-based interpretations and documentation of the child’s experiences. They provide information that early childhood educators and other caregivers can use to modify the environment for the child or group of children and track individual children’s development over time. They allow the practitioner to get to know individual children in a holistic way. Children themselves can contribute to assessments through their own observations and documentations (Carr, 2001).

“Observing and documenting the progress of young children is central to the practice of early childhood professionals.” (NAEYC, 2005, p.2) Ongoing assessment (observation and documentation) of each child’s development is an essential part of the professional practice in early childhood settings. Assessments intended to document, support and promote children’s learning and development may use indicators of children’s development and may suggest

possible methods of facilitating the documentation of child development. These formative approaches may document children's explorations and thinking by collecting and displaying the materials that track the growth of children's play. They may represent what happened with children's work in portfolios of photographs, videotapes, audiotapes. Documentation includes descriptions of children's actions and language that are connected to the children's purpose, development, person meaning and identity.

Observation and documentation provide information to early childhood practitioners who are planning programs and communicating with parents. Observation and documentation are also useful ways of communicating with parents about a child's experience and the perennial question of "how is my child doing". Sharing results with parents is an important part of child assessment (Horton & Bowman, 2002).

The professional literature includes extensive description of observation and documentation methods in early childhood programs (for example, Carr, 2001; NAEYC, 2005) but innovative research approaches are emerging (for example, Bernhard, 2005; Carr, 2001). There are relatively few studies reported in the academic literature on these popular methodologies. The question of "how well" these methods work cannot always be answered in terms of issues such as reliability and validity, either such information is not available or because the methods may be more qualitative and less suitable for analysis in these terms. Nevertheless, the interest in observation and documentation as assessment of children's learning and development grows in tandem with the growth of emergent curriculum approaches. Innovative research approaches are emerging.

Other observation approaches take a different approach and develop systems to record assessments of children's knowledge, skills and accomplishments (National Research Council, 2001).

For Example: Early Authors Program

The Early Authors Program (Bernhard, 2005) represents an innovative, effective means of supporting young children's literacy and respecting bilingual families. Books, in which the child is the protagonist, are made with parents' involvement. The process encourages children to use both their home language and the language of instruction and appears to support early literacy skills. The program was evaluated with 800 families using a pretest/posttest randomized experimental design. The intervention was effective in increasing literacy practices in child care centres and increasing language and literacy scores of 3 and 4 year olds.

Example: Learning stories

Learning stories document the evidence of children's learning and development. They are a particular form of documented and structured observations. They take a narrative, non-deficit approach aligned with early childhood curriculum approaches that are child-centred and based in

a socio-cultural perspective (Carr et al 2001). In New Zealand, according to their proponents, assessments through learning stories:

- Act as a way to recruit children, families and the staff team to participate in a learning community
- Provide social spaces for everyone to contribute to the curriculum
- Assist participants in that community to develop trajectories of learning/development

The observation, documentation and analysis of learning stories provide a sample of children's learning that is rich in context, articulate and complete in terms of the situation, the actions and the conclusion. Learning stories are narrations that document children's engagement in learning experiences, including the analysis or assessment of that learning and the child's emerging developmental skills. The stories and assessments can be presented in children's portfolios for children, families and staff to read and re-read.

Learning stories from early childhood settings offer snapshots of children's learning and development in action by describing actual, unique experiences. They depict early childhood practice and the active involvement of adults and children in learning. Learning stories show how development and learning are integrated in programs and how content is meaningful to children. They reflect the community and cultural and linguistic diversity.

Learning stories stays close to the children's real experiences and provides an alternative to mechanistic and fragmented approaches. Learning stories allow early childhood practitioners to assess complex outcomes in early childhood they can be excluded from assessments. Simple and low level outcomes and goals often take their place.

There is limited research on this approach but anecdotal information collected from practitioners and EC experts in New Zealand suggest that they can work well for the purposes outlined above, can require a good deal of practitioner time, and are not always well implemented or understood by practitioners.

Example: High Scope Child Observation Record

The Child Observation Record (COR) is an observational assessment tool for children aged 2½–6 years. It measures children's progress in all ELCC programs (including but not limited to those using the High/Scope curriculum approach). The Preschool COR second edition includes 32 dimensions of learning in six broad categories: initiative, social relations, creative representation, movement and music, language and literacy, and mathematics and science. The Infant and Toddler COR considers broad areas of development, including sense of self, social relations, creative representation, exploration and early logic and movement.

The COR is reliable in two respects; it is scored in substantially the same way by different observers and is internally consistent across items. The COR is valid for some purposes,

correlating as expected with concurrent measures of children's development and future measures of school success (Sekino & Fantuzzo, 2005).

2.2 Standardized Assessments

Standardized assessments (or tests about what children know and can do) are usually based on an inventory of skills or developmental milestones that children typically acquire during their early years. They may be used to identify and/or diagnose developmental difficulties, provide a starting point for conversations with families, determine readiness for school learning, staff development or provide feedback for programming purposes. Specific tools may be based on the early childhood educator or teacher report of what a child knows or can do, child performance of a specific test item or embedded activity or the observation of a child taking part in daily activities and routines. Outcome standards assessments can be considered along five dimensions: scope; type of instrument; focus; format; and purpose (adapted from Britto & Kohen, 2006). Ordinarily there is published information to help answer the question of how well the measure works in terms of reliability and validity.

Scope

Some instruments only measure one aspect of development. For instance, cognitive measurements focus on specific aspects of cognition, non-verbal analytical skills, whereas holistic assessments also incorporate social, emotional, and physical development. Intelligence tests or IQ tests, such as the Wechsler Intelligence Scale for Children test mainly cognitive skills. The Peabody Picture Vocabulary Test measures receptive language ability Both meet generally accepted standards for at least some forms of reliability and validity.

Standardized school readiness tests assess acquired knowledge and skills extend to literacy (recognizing letters), fine motor skills (holding a pencil), and social development (being able to state one's name). These are specific skills and knowledge that are "achieved" and are seen as the result of particular experiences or due to instruction. In reality, even though cognition has been linked with success in school and consequently there exists an overlap between cognition and school readiness, school readiness is broader than cognition (see below).

Type of Instrument

Some measures compare an individual child's score with a norm, or the scores of many other children who have passed the test (norm-referenced). A child's ability is compared to others and is seen as a characteristic of the child, rather than as the result of particular instruction. The child's score can then be compared or ranked according to how well most children perform on the test. The difficulty with normed tests is that the comparison group may not be from the same group as the child being tested, so the norms may not be appropriate. For example, comparing the test scores of a child in remote community in northern Canada to norms generated in the United States may not be meaningful.

Other tests use “criteria” or defined standards of performance to compare the child’s performance to (criterion-referenced). Research studies may be carried out to be sure that the criterion is correct – that children who meet the criterion will actually do better in school than those who don’t. This is called “predictive validity” or assessing whether the particular instrument predicts how well the child will do in school. A locally developed “achievement test” is criterion-referenced if it measures what the school district or teacher has decided that children should know (Britto & Kohen, 2006).

Focus

Many commonly used assessment for young children are screening tests, designed to determine if the child is developmentally delayed, (that is, at risk of not doing well).. The main purpose for developmental screening is to identify individual children who might be at-risk for health or learning problems, developmental delays, or disabilities. Screening is often considered the first step in an early intervention process and that can prevent further exacerbation of problems. In other words, the child is behind schedule in reaching the established milestones of early childhood development and is not developing at the same pace as the normative population. Screening tests are generally norm-referenced, and provide a score that indicates whether the child is at-risk, questionable, or within normal limits (3-point scale) (Boehm & Bassard, 2004).

The main purpose for developmental screening is to identify individual children who might be at-risk for health or learning problems, developmental delays, or disabilities. Screening is also often considered the first step in an early intervention process and to the intervention can prevent further exacerbation of problems. In other words, the child is behind schedule in reaching the established milestones of early childhood development and is not developing at the same pace as the normative population.

A screening tool does not measure how well a child is doing, because it is only useful for determining risk and is not reliable or valid for other purposes. Screening tools have limited power to predict later developmental status and future academic achievement (Kagan & Kauerz, 2006). Second, the absence of developmental delay does not necessarily indicate developmental well-being (Shonkoff & Phillips, 2000).

School readiness assessments are typically designed to assess if a child is prepared for the formal learning environment – that is, if the child has achieved an established set of criteria. The focus of school readiness assessment is not on the absence of developmental delay, disability, or health problems. School readiness tests tend to give the child a continuous score as well as a score on various domains indicating how well the child did on the test as well as on particular domains. In this way, the level of achievement can be variable, and both children doing poorly and children doing well can be identified. School readiness tests may provide more useful information than tools that solely determine developmental delay or risk.

Format

A fourth key dimension is knowing how the data are collected. Some assessments rely entirely on parent reports, or teacher ratings, whereas others rely on testing and direct observations of children. Generally the latter is considered superior since it may be more objective, but may not always be possible given resource constraints. A number of instruments use a combination of observational and parent or teacher ratings.

Example: Nipissing District Developmental Screen

The Nipissing District Developmental Screen (NDDS) is a tool designed to assist in the identification of children ages one (1) month to six (6) years, who may require early intervention. The items included in this Screen were compiled using a wide variety of standardized and non-standardized developmental instruments published elsewhere. Validation testing of the Nipissing District Developmental Screens was completed as part of the Healthy Baby, Healthy Children evaluation (Nagy, Ryan, & Robinson, 2004). Inter-rater agreement was 71% between parent and non-parent caregiver responses and the results were stable between 12 months and 18 months for 65% of the sample. Also, the NDDS yielded high agreement rates with another standardized screen, the Ages and Stages Questionnaire. The areas of development covered by the Screens include the following: vision, hearing, communication, gross motor, fine motor, cognitive, social emotional and self-help skills.

The screen is designed to be filled out by the parent or caregiver and reviewed with a qualified professional (e.g. physician, public health nurse, early childhood educator). The checklist coincides with infant immunization schedules as well as key developmental stages up to age six. The child's chronological age will determine which checklist to use. The ages are noted at the top of each checklist. If the child falls between two ages, the earlier checklist is used (e.g. for a 4 1/2 year old child use the checklist for 4 year olds).

A space has been designed on the screen so each agency or individual program can personalize the sheets with a stamp giving their own phone number, etc., for parents or other service providers to contact for more information. When one or more items are checked No, the parent or caregiver should discuss the response rating with the agency or individual indicated on the screen. If an item is marked No, this is a red flag for a possible problem as all skills in each checklist are expected to have been mastered by the age shown. These red flags indicate that the child's development is at risk and further investigation is required in the area(s) identified.

In addition to the screens, age appropriate activity sheets are included in tear-off form. It should be noted that ages and stages of child development are not the same across all cultures. Differences in development may reflect the experiences and opportunities that children have had, rather than indicating a disability. Items included in this checklist are sensitive to the varying cultural values in child rearing and allow for alternate experiences. The language items refer to the child's ability in his/her first language.

The *Report of the Expert Panel on the 18 Month Well Baby Visit* (Ontario Children’s Health Network & Ontario College of Family Physicians, 2005) recommended a developmental review at the 18 month primary health care immunization visit that would include the use of the 18 month NDDS screen. The NDDS is perceived as a conversation starter to discuss child development with families. The NDDS is a tool that can support conversations among early childhood settings, specialized services, primary health care and families. It is organized around children’s physical, social, emotional, language, linguistic and cognitive domains of development.

Example: Peabody Picture Vocabulary Test

The Peabody Picture and Vocabulary Test – Revised (PPVT-R) measures children’s receptive (understanding of) vocabulary. The interviewer presents the child with a set of pictures and the asks the child to identify the picture corresponding to the word read by the interviewer. The PPVT-R is a direct assessment tool that measures receptive or hearing vocabulary in children ages 4 and 5 years. The interviewer administers the test directly to the child in either English or French once the child’s parents have given consent.

Based on the results of the test, a standardized score is developed, in which the average score for the population is set at 100 with a standard deviation of 15. This standardized score takes account of the child’s age and allows for comparisons of scores to be made across age groups. Based on the standardized score, a child who scored between 85 and 115 displayed average verbal development. A child who scored below 85 portrayed low verbal development. A child with a score of 116 plus displays advanced verbal development.

Researchers have used the PPVT to measure children’s understanding of vocabulary and language development for the past four decades. PPVT-R measures of understanding of vocabulary are related to measures of children’s I.Q. and with other verbal intelligence measures (Dunn & Dunn, 1997) and with academic achievement (Williams & Wang, 1997). Nevertheless, the question of “how well” the Peabody works depends on the purpose for which it is used. For example it might be good measure to test whether a program helps children’s general language and vocabulary but it wouldn’t be a good measure of whether a program supports development of other aspects of language and literacy such as phonemic awareness.

Purpose

What is the purpose of the standardized assessment? This is best aligned with the other dimensions - for example if the measure is a screen for developmental difficulties, it should be used as a first step in the early identification of problems rather than as a general assessment of the child’s development for purposes of program planning.

2.3 Early Learning Standards

Early learning standards are outcome standards that describe what children should know and be able to do (Kagan, 2003). Comprehensive standards include content standards that define the range of knowledge and skills that children should be able to master. They may also describe the habits, attitudes, and dispositions that children are expected to acquire as a result of experiences in early childhood settings. Early learning standards also include performance standards that describe how children can demonstrate that they have met the content standards (Bodrova, Leong & Shore, 2004). Early learning standards are not the same thing as standardized testing/assessments as described earlier (with fixed items, standard administration etc.). Early learning standards may be assessed either informally in everyday practice or in more formal ways, including standardized testing.

Early learning standards can be used to report on children's competence at a given point in time and are often collected through direct observation of children. In addition, they are often used to guide pedagogy and instruction; to help families understand children's developmental status; and to help inform the nature of instruction for young children. In other words, child outcome standards are typically a set of statements that inform various audiences about children's behavioural accomplishments.

Understanding the international context for early learning standards is helpful context for practice and policy in Canada. Early learning standards have become an important part of US and UK educational policy. In the US, for example, it was reported that 43 states had standards in place in 2005 (up from 16 states five years earlier) and that the other 7 states were in the process of developing them (Neuman & Roskos, 2005). Most observers attribute this growth to the explicit "push-down" effects of standards-based education reform in which universal measurement of academic achievement, alignment to curriculum, teacher "assessment literacy", and advancing expectations are seen as keys to improving educational outcomes.

Although these state "standards" may have common roots, Neuman and Roskos (2005) point out that there are many differences, including the particular content and level of detail. Levels range from domains (e.g., language), to skills (vocabulary), to general indicators of skill (vocabulary level), to specific indicators (color words), to program activities that may foster development at other levels (child plays word games or teacher reads).

Most of the state standards incorporate the holistic development of children is a goal in itself, and a necessary support for learning and school success, by including items in addition to cognition, language and preacademic items. Usually social-emotional and physical well-being/motor development are included as recommended by the National Educational Goals Panel in the U.S.(Kagan, Moore & Bredekamp, 1995). Nevertheless, there appears to be much greater focus on literacy and numeracy (see Neuman & Roskos, 2005)

There have been a number of critiques of these approaches. The knowledge base about how to align child outcomes with curriculum or programming is weak (Scott-Little, Kagan & Frelow, 2003) Formative assessment of children in context (discussed previously in this review as part of observation and documentation) does not align with most early learning standards. Others raise questions about the reliability of the measures, the problems of labelling children, and distracting early childhood staff from the primary purpose of supporting children's general development (see Shonkoff & Phillips, 2000).

To date, there is very little evidence on whether these approaches can meet these quality standards as well as other technical tests of good measurement such as validity, reliability, and authenticity (Neuman & Roskos, 2005). In addition, the "process" questions of implementing these approaches among early childhood professionals and organizations have not been addressed in the literature.

In the U.K. there is a national approach consistent with the national standards-based education reform. In the new "foundation stage", children are tested over a longer period of time instead of only at intake into early childhood programs (Haughton, 2001). There are goals for children in language, communication, mathematics, physical skills, personal development, and general knowledge. As in the U.S. there are criticisms. A recent survey of early years teachers found that they were concerned with unrealistic standards given that only slightly more than a quarter of four-year olds were meeting the national standards for writing (Ward, 2006). In a more general critique Soler and Paige-Smith (2005) point out a fundamental conflict between the special educational needs (SEN) of some children and the reform agenda of common standards, assessment, and pressure to set ambitious academic achievement targets. The issue of meeting early years standards in "deprived" communities in the UK is being addressed with the national Sure Start initiative. A recent, wide-scale evaluation of local programs in this initiative shows mixed results, based on a number of indicators including teacher evaluations from "foundation stage" assessments (Belsky, Melhuish, Barnes, Leyland, & Romaniuk, 2006). In this instance, child measures are part of the program delivery and an indicator of program success or failure.

One reason community programs may fail is a lack of focus in both programming for, and monitoring of, children's development (Boyle & Willms, 2002; Pickstone, Hannon & Fox, 2002). Pickstone and colleagues argue that Sure Start community programs should include language supports for children built on *surveying* community-level challenges in language development and *screening* with referrals for language difficulty. They reviewed scores of international language screening instruments and recommended five, all parent report instruments, as feasible and suitable for the UK context, including a Sure Start parents interview. However, they also note that none of the many language screening instruments that were reviewed dealt with first and additional language issues and were not ideal for bilingual children. Canadian preschool language instruments developed by Girolametto (e.g., 1997) were not reviewed.

In Canada, the development of provincial early childhood assessment schemes has lagged behind (or has been more deliberate than) the US and UK. Canadian developments are also not as clearly motivated by standards-based school reform, although “school readiness” is certainly part of the Canadian policy landscape. For example, the most pervasive early assessment approach is the Early Development Instrument (see section below), which focuses on how communities are doing in supporting early child development rather than how individual children are doing in their early academic careers. In general, the early childhood assessment scene can be described as a “patchwork”, much like the early childhood services scene. For example, in Ontario there is targeted screening with Healthy Babies and a number of instruments; other screening operations by public health, child care, and other service organizations; and early and ongoing assessment and identification in the early years of school. However, there is little consistency in the assessment within these sectors, and no real communication across sectors. Thus, within the education sector, even though there is a decades-old Ministry policy requiring early and on-going assessment, a province-wide survey of boards in Ontario showed vast differences in practices ranging from use of formal testing to anecdotal observation by teachers (Pelletier, Harris, Mueller & Morgan, 1999). With increasing attention to the early years in education, interest in early assessment has increased in some jurisdictions. These approaches go beyond the earlier focus on identification of learning difficulties.

Example: Ontario Kindergarten Program Learning Expectations

The revised Ontario Kindergarten Program (Ontario Ministry of Training and Education, 2006) includes specific learning expectations that children are expected to achieve by the completion of Senior Kindergarten.

2.4 The Research Base on Children Developmental Outcomes

In the research literature, as well as in recent policy development, child outcomes have been often defined around “school readiness”. There are objections to this term and a good deal of rhetoric about not viewing readiness as pre-academic qualities inside the child and needing to think about “ready schools” and “ready communities” (e.g., Pelletier & Corter, 2005). Similarly, academic and policy conceptualizations are said to be “ecological/developmental or interactive” but in the end “readiness is nearly always defined in terms of children’s skills, or characteristics such as chronological age (LaParo, Pianta & Stuhlman, 2004, p. 444).

Until the nineties much of the research focused on standardized preschool tests of development and simpler screening instruments with questions about reliability and validity in predicting early school success. For example, Graue and Shepard (1989) examined the predictive validity of the Gesell School Readiness Tests by examining correlations with later marks in first grade and with teacher ratings and standardized achievement test scores. No correlations were found for children referred by teachers as worrisome, and very modest correlations were found for a random sample of kindergarten children followed prospectively. The investigators concluded that using this

instrument in determining placements was unwarranted. This was part of a chorus of evidence questioning the appropriateness of one-shot testing of preschoolers, with tests, scales or screens.

During the nineties a growing number of studies abandoned the psychometric investigation of packaged tools and took a broader view in looking at how individual differences across developmental domains are organized in the preschool period. Interest also continued in looking predictively at how these domains relate to later adaptation, including, but not limited to, academic success. In addition, the role of ecological factors relating to family and community also entered into the research analyses (e.g., Chatterji, 2006). These studies often examine developmental domains that move beyond those most commonly categorized as pre-academic (cognition and language) and related skills in early literacy and numeracy. Thus the social and emotional domains have been brought into the picture with measures such as temperament, emotional regulation, and behavior control. More nuanced cognitive dimensions like task-persistence and attention control are also being examined.

Despite the widening interest in examining patterns in measures of holistic development, looking ahead to school success remains a theme. For example, Coplan, Barber, & Lagace-Seguin (1999) studied whether preschoolers' temperaments correlated with preacademic literacy and numeracy skills assessed by an independent observer. Even when factors like child vocabulary (PPVT-R) and socioeconomic status (mother's education) were taken into account, mother's reports of temperament added to the prediction of which children would have stronger pre-academic skills. This study represents a number of recent findings suggesting that positive social-emotional regulation may help young children learn more from the environment.

Another kind of question is what aspects of development predict from preschool to early school adaptation. LaParo, Pianta & Stuhlman (2004) carried out a meta analysis of more than 60 longitudinal studies that had examined this question in terms of social and cognitive (including language) predictors of social and cognitive functioning in school. While there was some prediction within both social and cognitive domains, cognition was more stable than social development with better prediction from preschool to school. Note that caution is warranted in relating these findings to readiness assessment and preschool programming. First, most measures of social functioning are based on ratings, and most measures of cognitive functioning are based on direct observation or testing, which provide better estimates of actual functioning. Second, the environmental change from preschool to school environments may have greater impact on social functioning than on cognitive and language functioning, leading to more reorganization of social development and less prediction.

Is it somewhat paradoxical that the things that are stable or predictive for individuals are the things assumed to be appropriate as the targets for early interventions? For example in some skill domains it has been observed that stability may reflect genetic factors which make the skill less susceptible to environmental influence and early programming (e.g., Deater-Deckard, Petrill,

Thompson, & DeThorne, 2006). This takes us into philosophical issues of purpose in social institutions like schooling, child care and early childhood interventions. Are they meant to close gaps or improve performance for all? Ceci and Papierno (2005) wrote a provocative paper on this question entitled, “The rhetoric and reality of gap closing: When the ‘have-nots’ gain but the ‘haves’ gain even more.”

One final study worth noting presented a unique way of examining patterns across developmental domains and early school achievement. Konold and Pianta (2005) aggregated measures for an intensively studied sample of more than 900 young children and statistically created child profiles of readiness using three types of cognitive/language measures and three types of social measures. Children were classified into one of six different profiles: Attention problems, social and externalizing problems, low cognitive ability, high social competence, low/average social and cognitive skills, high cognitive ability/mild externalizing. These profiles were tested against school achievement. The results suggested that it is more meaningful to look at composite profiles than to simply total up strengths and weaknesses. For example, a weakness in one area may not have adverse effects on achievement, depending on which other areas are high, low or average.

3. Evaluation of ELCC Programs

Most program evaluations involve a systematic review of the quality of a program. Program evaluations consider various dimensions of program delivery, utilization, and resource allocation. They may be used for planning environments to enhance children’s development and learning, staff development, as a basis for program accreditation or to make decisions about resource allocation. In some instances, child outcomes standards are used for program evaluation purposes.

Program evaluation is a systematic inquiry into the effectiveness of a program for the purposes of making decisions about program functioning, improvements in program effectiveness, and/or to inform decisions about future program development. There are several different models of ELCC program evaluations (e.g. effectiveness of the intervention, cost/benefit analysis, formative, summative, process, outcomes). However, internationally ELCC program effectiveness has typically been assessed via outcome evaluations of children in the program (Arnold, 2004).

The focus of an outcome evaluation is purely on the results of the program, most often measured in terms of changes in child outcomes (e.g., school readiness outcomes) pre and post program participation. A process evaluation, on the other hand, takes into consideration factors such as fidelity to implementation and program participation, e.g., professional characteristics of the staff who administered the program, type and amount of services a family received, etc.

Assessments for program evaluation are determined by the type of program. One of the defining characteristics of ELCC programs is the location or type of services received: centre-based; home-based (regulated or unregulated); or mixed-approach models (combination of centre and

home based services). Evaluations of program impact differ as a function of the type of program (Britto & Kohen, 2006).

ELCC programs need to be supported and evaluated by appropriate tools that respect the unique nature of each program while ensuring common evaluation criteria across the province. While many different tools are in use on an ad-hoc basis, none can be described as meeting all the criteria enumerated above. ELCC programs can be regularly evaluated using a standard tool that can be supplemented by additional tools that are relevant for a particular program model or curriculum, or better evaluate some aspects of program such as inclusion of children with special needs. ELCC programs can check their practices against program standards that reflect diversity, equity and inclusion (for example, see Irwin, 2005). Toronto First Duty's Indicators of Change is a tool that allows ELCC programs to evaluate progress towards integrated service delivery (Corter et al, 2006).

In order to evaluate the quality of a program, it is essential to define the components of quality. A recent review of the literature about quality ELCC environments (Friendly, Doherty & Beach, 2006) reports an international consensus on nine critical elements of quality programs: safety; good hygiene; good nutrition; appropriate opportunities for rest; promotion of equality of opportunity regardless of gender or other differences; opportunities for play and for development of motor, social, language and cognitive skills; positive interactions with adults; encouragement and facilitation of emotional growth; and an environment and practices that support positive interactions among children. These elements are supported by research studies that have examined what kinds of programs best support children's optimal development.

3.1 Evaluating Program Quality

The Canadian Centre for Knowledge Mobilization (2006) reported that studies that directly measure the relationship of child care quality to outcomes of child development most frequently use the Early Childhood Environmental Rating Scale - Revised (Harms & Clifford, 1998), Infant-Toddler Environmental Rating Scale or Family Day Care Environmental Rating Scale. Other commonly used measures are HOME and ORCE.

A variety of more specialized tools have also been developed for in-depth assessment of the program environment in Kindergarten classrooms (Grinder, 2007), such as the Caregiver Interaction Scale, the Early Language and Literacy Classroom Observation, and the Classroom Assessment Scoring System (CLASS) measuring the emotional and interactional climate.

Example: Early Childhood Environmental Rating-Scale

The Early Childhood Environment Rating Scale – Revised (ECERS-R) provides a scale with which to review the quality of preschool environments. The scale focuses on the physical

environment and looks at the use of space, play materials, and learning experiences, as well as at adult-child interactions. There are thirty-seven items on the scale, with a continuum of possible performance.

ECERS-R is used as a measure of quality for research studies and is useful as a tool to assist individual program development. In addition to the scale for preschool ECERS settings, there are comparable tools for infant and toddler settings, school-age settings, and family child care settings.

ECERS-R is used to measure quality in a variety of environments that offer programs to preschool children including child care centres, family resource and parenting programs and kindergarten classrooms. It has become the standard measure of quality for family support programs, child care and kindergarten in North American research. Some Canadian examples of studies that have used the ECERS-R are:

- The 1998 You Bet I Care! Canadian study of child care staff and quality in child care centres used ECERS-R to measure the quality of preschool programs located in full-time child care centres (Goelman et al 2006).
- Parent-child readiness programs have used ECERS-R to collect information about the quality of the child's environment in adult-child programs (Pelletier & Brent, 2002).
- A Canadian study of child care and kindergarten environments in four provinces applied ECERS to assess and compare the quality of the environment in several child care rooms and kindergarten classes (Johnson & Mathien, 1998).

The ECERS-R is a standardized measure. Since its development in the early 1980's, the tool has been validated. Researchers have carefully measured children's outcomes, controlling for other factors such as family characteristics and compared changes in outcomes to differences in the ECERS-R assessments of early childhood environment. Repeatedly, researchers report that higher ECERS-R scores are related to better child outcomes measures.

Researchers have also tested the tool's reliability. They have tested how the items are scored to determine if two different observers are likely to arrive at the same score for the same environments. The findings indicate that if observers receive training and follow the directions, they are likely to arrive at similar scores for the same early childhood environment.

ECERS-R does NOT measure the quality of parenting programming and activities. Nor does it measure the quality of the work environment for school. It is a snapshot of the quality of the early learning environment. Often there are limitations in the daily schedule or physical setting that staff cannot easily change. However, ECERS-R can point to changes in practice that result in enhanced early learning environments for young children.

The Preschool Program Quality Assessment Instrument (PQA) is an up-to-date and comprehensive rating instrument for evaluating early childhood program quality and identifying staff training needs. The PQA covers 63 dimensions of program quality in the seven domains: learning environment, daily routine, adult-child interactions, curriculum planning and assessment, parent involvement and family services, staff qualifications and staff development and program management. The PQA can be used in all center-based early childhood settings, including but not limited to those using the High/Scope educational approach. Again like the ECERS-R, it would not be appropriate to use as an overall measurement of parent programs.

3.2 Program Standards

Program standards that are associated with child outcomes make up many program evaluation tools in early learning and child care. They describe the resources, activities and interactions that programs offer to promote children's learning and development (Bodrova, Leong, & Shore, 2004). Program standards include environmental standards that identify characteristics such as the maximum group size, ratio of adults and children and the materials and supports available for children and families. Curricular and pedagogical standards describe what (the content) activities and materials are planned and how (the process) adults support children's learning and development.

Accreditation is a process by which a recognized independent body establishes standards for services and evaluates programs based on those standards (Doherty, 2000). Accreditation or operating criteria are often based on indicators or benchmarks of what is considered effective practice (based on research findings, professional judgement and community values). Alberta has instituted a province-wide accreditation system for all regulated child care programs and Manitoba is considering adopting such a system (Bertrand, in press). The largest accreditation program for ELCC programs is operated through the American organization, National Association for the Education of Young Children (NAEYC). An evaluation of the impact of NAEYC's accreditation process revealed that it did seem to have an impact on quality, independent of funding and regulation (Doherty, 2000). However, accreditation remains a popular strategy and is considered an effective one if it is implemented in concert with infrastructure supports and funding.

Example: SpecialLink Child Care Inclusion Practices Profile and Principles Scale

The SpecialLink Inclusion Child Care Practices Profile and the SpecialLink Child Care Inclusion Principles Scale (Irwin, 2005) are tools that assess the quality of inclusion of children with special needs in child care centres. They provide a picture of sustainable and evolving inclusion quality. They include 247 indicators that are organized into a rating scale format.

4. Monitoring Impact on Community/Population

The impact of early child development and/or ELCC programs at the community or population level provides information about how children are doing within their environmental context. A

quantifiable base of knowledge of demographics, available resources and socioeconomic status at the community or population level combined with aggregated assessments of child outcomes and program evaluations provide a multi-dimensional measurement perspective. In a sense, this level of measurement ‘takes the temperature’ about how children are doing within a given population or community, suggests some of the associated factors and can be used to set benchmarks for improvements and allocate resources.

4.1 Surveys

National surveys, surveillance systems and Census data provide data sets that allow researchers and policy makers to monitor children’s development. Longitudinal surveys follow a representative sample of children over time.

EXAMPLE: National Longitudinal Survey of Children and Youth, Statistics Canada

Canada’s commitment to the National Longitudinal Survey of Children and Youth (NLSCY) provides a unique opportunity to monitor children’s development across Canada. Every two years the NLSCY tracks a large sample of children from birth to age 25, through the major transitions to adulthood. It collects information from parents, children, teachers and principals about:

- children’s physical, social, emotional, cognitive, language and behavioural development;
- family characteristics such as the age, gender, and marital status of all members of the household, family income and parental employment status;
- the dynamics of family life; and,
- neighbourhood, preschool, school and community environments.

The person most knowledgeable about the child is asked to complete the parent interview. In most households, this is the mother.

The NLSCY uses a “nested design.” The sampling of each identified household includes all children who were newborn to age eleven, up to four children (in families with five or more children, four children were randomly selected). For example, most studies of children’s behaviour problems, except for twin studies, have targeted one child per family. However, the NLSCY, because of its nested design, enables researchers to study whether certain outcomes – such as aggressive behaviour – “run in families.”

The National Longitudinal Survey of Children and Youth

Motor and Social Skills

The NLSCY parent interview includes a set of 15 questions that measure motor and social development of young children from birth through 3 years. The results of these questions are combined into a standardized scale in which the average score for the population is set at 100 with a standard deviation of 15. This standardized score takes account of the child’s age and

allows for comparisons of scores to be made across age groups. Based on the score, children scoring between 85 and 115 were considered to have average development. Children scoring below 85 displayed symptoms of delayed development

Behaviour

The NLSCY reports on the four measures of behaviour problems: emotional problem-anxiety, hyperactivity, physical aggression-conduct problem and prosocial behaviour. For each behaviour, the interviewer asks a set of questions. The answers are combined into a scale to give a profile of the different types of behaviour. These questions are answered by the person most knowledgeable (usually the mother) about the child, reflecting a parental assessment of the child's behaviours, not a professional diagnosis.

To identify the presence of behavioural problems, thresholds (or cut-off points) were identified for each of the behaviours. These thresholds were established by taking the scale score that is closest to the 90th percentile for each of the individual scales. The data presented represent the proportion of children who exhibit signs of problems for each of the individual areas.

Vocabulary Development

Receptive vocabulary is tested by the Peabody Picture Vocabulary Test, which is a standardized test widely used to assess children's language development. A French version of the test (Echelle de Vocabulaire en Images Peabody) was developed for the NLSCY.

Number Knowledge

The NLSCY includes the Number Knowledge Test that has twenty items to assess children's understanding of the whole number systems, quantity (e.g. more or less), number sequence and simple arithmetic.

The first level of the test measures a child's ability to count by rote and to quantify small sets, using concrete objects. This knowledge is important for the next level where children deal with changes in quantity without objects than can be touched or seen. The second level assesses children's knowledge of the number sequence and ability to handle simple arithmetic problems. To solve the items, children must rely on a "mental counting line" in their heads. This "line" combines their understanding of numbers and quantities (for example, 9 is bigger than and comes after 5, 9 is smaller than and comes before 12). The third level measures children's ability to do simple adding and subtracting.

The interviewer asks the child questions orally and the child answers verbally. The child may not use paper and pencil to figure out answers. The test continues until the child fails to answer three questions in a row and takes about 10 minutes to complete. Various manipulatives are used such as chips and a number card.

Maternal Depression

The NLSCY parent interview includes twelve items that are typically used to measure depression. The interview includes questions about whether the person often feels depressed or lonely, has crying spells and low energy, experiences difficulties concentrating and sleeping, and has a sense of being disliked by others. The answers are scored and coded so that high scores indicate positive mental health and low scores indicate depression.

Family Functioning

The parent interview includes twelve items that assess a family's ability to communicate, make decisions and solve problems as a group, discuss feelings and concerns, and get along together.

Positive Parenting

The NLSCY parent interview includes a scale that measures the extent of positive interaction;s. The items include questions about how often parents talk and play with their children, how often they laugh together and how often they praise their children. It also assess whether parents are rational and consistent in their approach. There are questions about discipline. Were they likely to raise their voice, scold or yell at their child, calmly discuss the problem or discuss alternative ways of behaving. Does their punishment depend on the mood they were in? Did they punish their child repeatedly for the same behaviour?

Parent Engagement

The NLSCY parent interview measures the extent to which parents are engaged with their child in learning activities. It collects information about whether and how often parents tell stories and read books to their children. The interviewer asks parents if they encourage their children to use numbers in day to day activities and teach their children how to count or recognize letters of the alphabet. Also there are questions about how frequently parents read books to their children and look at pictures together and if children write or pretend to write with markers, crayons or pencils.

4.2 Administrative Data

Administrative data, including utilization and financial reports, unmet service needs, and characteristics of the early childhood workforce can be used alone or in combination with other program evaluation, assessment and monitoring data (Friendly & Beach, 2006). These data can

be collected as part of the service delivery of ELCC and can be used to support planning and resource allocation and to ensure accountability.

For example, the Children's Services Department of the City of Toronto collects these data and is able to report on actual usage, availability of spaces in defined geographic areas within the city, attendance patterns by different age groups, levels of staff training, staff salaries and parent fees (City of Toronto, 2005).

4.3 Provincial/Territorial, National & International Monitoring

On an international level there is an increased interest in school readiness on the part of large international organizations (e.g., UNICEF, World Bank, Christian Children's Fund, Save the Children, Aga Khan Foundation) and governments, and therefore a need for national-level monitoring systems. Decisions that might depend on an assessment of children's readiness for school include: informing policy and resource allocation decisions; assessing country-level progress in serving the needs of young children; and making international comparisons on country progress towards the national and international goals related to child development, education, and poverty reduction. Given the vital role of monitoring systems for making large-scale decisions that can have far reaching implications, it is important to gather reliable and valid data on children's preparation for school based on sound measurement systems and valid (accurate) assessment instruments (Hauser, Brown, & Prosser, 1997).

Monitoring conditions at the ELCC system level contributes to measuring the quality of ELCC programs. Understanding the system supports and limitations provides a context for understanding the infrastructure supports and limitations that ELCC programs face. Monitoring who is using and who is not using ELCC programs and what ELCC capacity exists in a community or a region helps to understand community measures of child development outcomes.

Currently, various tools are being used. These include tests and standards. Tests and their derived indicators are the most commonly used metric, across disciplines, for monitoring national outcomes, i.e., mortality indices, economic indicators, etc. An indicator is a quantifiable aspect of an outcome, construct, or phenomenon and serves as a gauge to identify changes in a given outcome or construct. In order to be useful and effective, indicators need to be replicable over time (reliable), predictive of school performance (predictive validity), and applicable across diverse groups both within a country and across different countries (construct validity). In situations where existing and acceptable measures are available in a country, they could be used to inform the development of indicators. However, measures used for monitoring state and national trends in early learning and development need to be robust, psychometrically sound, and culturally relevant. Finally, national level aggregate measures should allow for comparisons across regions and be nationally acceptable.

Within Canada, several initiatives are using social indicator approaches that identify specific outcomes and related characteristics and track them over a period of time, using the datasets such as those identified in the previous section.

Example: Well-being of Canada’s Young Children

The annual report *Well-being of Canada's Young Children* is co-authored by Human Resources Development Canada and Health Canada. It provides an examination of how Canadian children from birth to five years of age are developing. This report also continues to monitor indicators of young children's physical health and early development, as well as measures of family and community determinants. The report shows that they are healthy and growing up in families with good family dynamics, which is a key determinant of young children's health and development. The report delivers on the commitment made to Canadians by First Ministers under the ECD Agreement and the Multilateral Framework on Early Learning and Child Care to report regularly to Canadians on how young children are doing and annually on their investments in ECD, early learning, and child care programs and services. It includes indicators of child well-being and related family and community measures. Items with an * indicate the indicators that all jurisdictions have agreed to report on.

<u>Indicators of Child Well-being:</u>	<u>Family and Community-Related Measures</u>
Healthy Birthweight*	Parental Education
Pre-term Birth Rate	Level of Income
Incidence of Haemophilus Influenzae-b*	Parental Depression
Incidence of Meningococcal Group C Disease*	Tobacco Use During Pregnancy
Incidence of Measles*	Alcohol Use During Pregnancy
Infant Mortality Rate*	Parental Smoking
Breastfeeding	Family Functioning
Prevalence of Diagnosed Asthma	Positive Parenting
Injury Hospitalization: (1999)	Reading by Adult
<ul style="list-style-type: none"> • Falls • Motor Vehicle Traffic Crashes • Other-Unintentional • Assault • Self-Inflicted 	Neighbourhood Cohesion
Injury Mortality Rate	Families with Children Living in Core Housing Need
Motor and Social Development (MSD)*	
Emotional Problem-Anxiety*	
Physical Aggression-Conduct Problem*	
Low Prosocial Behaviour*	
Language Skills*	

Example: Canadian Council of Learning: Composite Learning Index

A composite index combines a variety of statistics to come up with an overall score for a particular subject. Composite indices are used to analyze trends over time or across different regions. The Composite Learning Index (CLI) uses a “basket” of 15 indicators to measure the state of lifelong learning in Canada. The CLI draws the link between learning conditions and social and economic well-being. The Composite Learning Index combines survey data from Statistics Canada related to each of the four areas of learning. In order to be included, the indicators have to meet the following criteria: pan- Canadian in scope; available at a regional level; collected in a way that is methodologically sound; reliable; and collected regularly. Geographic data from other sources are also included, to measure Canadians’ access to different learning resources and institutions.

The index looks at learning and indicators in four major areas:

- Learning to Know involves developing the foundation of skills and knowledge needed to function in the world. This includes literacy, numeracy, general knowledge and critical thinking and student skills (reading, math and problem solving) Indicators include: high-school dropout rates; young adults’ participation in post-secondary schooling; and, post-secondary attainment among working-age Canadians.
- Learning to Do refers to the acquisition of applied skills. It can encompass technical and hands-on skills and knowledge, and is closely tied to occupational success. Learning to do indicators include: participation in job-related training; availability of work training; and, access to learning institutions.
- Learning to Live Together involves developing values of respect and concern for others, fostering social and inter-personal skills, and an appreciation of the diversity of Canadians. This area of learning contributes to a cohesive society. Indicators include charitable giving; volunteerism; participation in social clubs and other organizations; and, access to community institutions, such as social clubs.
- Learning to Be refers to the learning that helps develop the whole person—mind, body and spirit. This aspect concerns personal discovery, self-knowledge, creativity and achieving a healthy balance in life. Indicators include: exposure to media; exposure to sports and recreation; exposure to cultural events and activities, such as museums, festivals and the performing arts; and, access to resources, such as libraries.

The Canadian Council of Learning is working with its Early Learning Knowledge Centre to determine early child development indicators to include in the CLI.

Example: The Progress of Canada’s Children & Youth

*Quality in Early Learning and Care in Ontario: Measuring Up?
An OCBC project funded by Social Development Canada*

The Canadian Council on Social Development (CCSD) has been producing *Progress* since 1996. This magazine-style publication provides a wealth of information on different factors that influence the health and well-being of Canadian children and youth. This 7th edition reports on many indicators, including family life, economic security, physical safety, learning, and more. Because the report tracks this information over time, it helps identify trends, successes, and challenges.

Progress is geared to those whose work involves issues affecting children and youth. Researchers, policy-makers, community workers and activists, teachers, parents, and child care workers are regular users of information in *Progress*.

Example: Early Childhood Education and Care in Canada, Childcare Resource and Research Unit

Early Childhood Education and Care in Canada 2004 (Friendly & Beach, 2005) provides cross-Canada data and information on regulated child care, kindergarten, maternity and parental leave together with relevant demographic information. Provincial/territorial profiles on regulated child care include: varieties of ELCC services; number of spaces; standards and regulations; service monitoring and enforcement; funding; history; and recent developments. The Big Picture section presents cross-Canada table compilations of material topic-by-topic. The Long View presents cross-Canada tables of information on child care since the early 1990s. The report includes an examination of the state of ELCC in Canada, federal ECEC programs, Aboriginal ECEC, and further readings.

4.4 Community Early Child Development Reporting

How children learn and develop is complex. Designing measures and methods for evaluating growth and development are complex tasks. Taking stock of how children are doing is a first step. But early child development measurement must extend beyond monitoring human development to understanding the multiple factors that influence that development. Measuring early child development includes assessing developmental outcomes and monitoring the impact of various early environments on that development (Weiss, 2004).

Early childhood practitioners gain insights about children and their families when they are aware of children's development within the context of their community environment. Children grow and learn in families and communities. Being able to describe and understand the community is essential to curriculum development, individual program and service planning and assessing development. Understanding of the community is not limited to knowledge and understanding of children and families enrolled in an early childhood setting. Inclusive programs strive to know, understand and involve those families that do not (from choice or otherwise) participate. Although the community context cannot be just reduced to maps, charts and statistics, knowing information about families including family income, education and occupation, immigration,

languages spoken and available community resources helps to better understand the developmental opportunities that children need to thrive.

Birth outcomes, Early Development Instrument (EDI) and school achievement tests (e.g. Ontario's EQAO tests) are measures of individual children that are aggregated to provide a community or population profile. While the measures are individual, they are too crude to provide much useful information about an individual child's development. They do provide a community and population measure that can monitor the relationship of family and community factors on child development, contribute to program and system planning and mobilize community resource allocation. Also, these data sets can be linked together to monitor population level developmental trajectories over time.

Awareness of the importance of communities² particularly in the role of children's early child development is growing (Mort, 2007; Love, et. al., 1994). Communities have the potential to influence children's early development in many ways, such as by providing infrastructure, services, learning opportunities, and supports for families with young children as well as directly for children. Interactions among community members and among children in the neighbourhood are other powerful influences. Measures at the aggregate/community level are important to gain an understanding of how communities differ, which communities are doing poorly and which may need additional 'help' (Goelman & Hertzman, 2004; Kershaw et al, 2004).

The focus of a community-level assessment is to measure "what children, residing in a certain community, should know and be able to do", for the purposes of monitoring changes over time, informing policy and recommending improvements (Murphy & Burns, 2002). In addition, it is particularly important to be able to track community level data when new policies or changes are implemented, to examine changes and assess effectiveness. Results of community level measures are designed to be used at the community level to: make valid comparisons among communities as well as longitudinal comparisons for the same communities over time; assess the learning needs of children; monitor child outcomes at the level of the school or community; and map outcomes and relate them to community resources.

Example: Early Development Instrument

The Early Development Instrument (EDI) is an accepted community level measure of early development at the time of entry to Grade 1 (Janus & Offord, 2000; Kershaw et al, 2006; Mustard, 2006). The EDI assesses domains that are closely aligned to the domains of development understood by early childhood practitioners. Early childhood settings can use community data, including EDI data in context of other information about income, parental education and home languages to plan programs for young children and their families.

² Community is defined broadly to include the immediate environment of the child outside of their home, i.e., in residential terms the neighborhood and in educational terms the local school district and in government terms the lowest level of local government.

Communities may choose to use community level EDI to establish specific targets and develop corresponding planning and monitoring mechanisms. For example, in 2005 the City of Toronto adopted 80th percentile EDI scores as benchmarks for community planning purposes (Varmuza, 2007).

The Early Development Instrument (EDI) measures children's readiness for school learning in five domains: physical health and well-being; social knowledge and competence; emotional health/maturity; language and cognitive development; and general knowledge and communication skills.

Data collected from the EDI provide a snapshot of how children are doing. Families and communities are able to consider how well they are preparing children for school during the first five years. As well, the EDI school reports provide a profile of children who are entering the primary grades and can help teachers and schools look ahead and plan programs accordingly. The EDI results provide a profile of the abilities of a group of children who are entering grade 1.

The instrument is a teacher report form on 100 items. It is completed by kindergarten teachers in the second half of either the JK or SK school year. Data collected from EDI are sent to McMaster Centre for analysis. Aggregated results that combine the results for all of the children in each domain and an explanation are sent back to each school. The EDI is NOT an individual assessment tool. It is not intended to be used as such. It is intended to be used as a population level measure that gives a read on how well a group of children are doing in a particular community. The EDI is NOT a measure of school or teacher performance.

EDI results help to develop descriptive profiles of local communities. The data can be combined with other community level data (such as what resources are available for young children and their families, socioeconomic indicators such as family income levels and family characteristics such as languages spoken). EDI data make an important contribution to the baseline data that will be used to describe a community. Baseline data allows a check back in three and five years to see if there are any changes that may be associated with changes in community resources and early child development activities.

The purpose of group level assessments, using instruments such as the Early Development Instrument, can be useful at the program level. Program level purposes include curriculum and instruction; teacher training; program curricula; and evaluation (Corter et al, 2006). Policy level purposes include community assessment for planning and monitoring at state, national, and international levels. Measures aggregated to the group level could be used for program monitoring and evaluation, curriculum development, resource planning, and developing early learning program standards. Group level results about school readiness yield advantages such as providing information about the collective status of children entering formal schooling (Love, Aber & Brooks-Gunn, 1994; Kershaw et al, 2006). The level of school readiness of a class,

school, neighbourhood or city, can indicate problem areas that would profit from additional resources. Using results from assessments at the group level would be applicable for all children in a given school or neighbourhood and would potentially avoid the stigmatization or exclusion of individual children from educational opportunities.

In British Columbia, school districts report that the EDI data are valuable and have been used for a variety of purposes including rationale for new early childhood and family programming, teacher in-service, program planning, community presentations, funding requests, services for Aboriginal children, initiation of new discussions with community partners and the formulation of school goals (Mort, 2007).

There is no comprehensive reporting of early child development across Ontario communities, although the EDI is now applied in all schools (Gardner et al, 2005). However, there are about 15 communities in Ontario that have produced public reports that include EDI data. A survey conducted in 2005 (Gardner et al, 2005) reported that there are outstanding reports with comprehensive and reader-friendly formats that could be models for a more consistent provincial strategy.

Example: The BC Atlas of Early Child Development

The British Columbia Atlas of Child Development (Kershaw et al, 2005) charts new territory about the geography of opportunity for young children in Canada. The Atlas presents a visual summary of early child development trends across neighbourhood, school district and provincial geographies in BC.

Colour maps depict information about the many intersecting environments in which BC families live and young children grow, including the socioeconomic, community and policy environments.

The Atlas points to a broad understanding of early development that transcends the boundaries of any single policy envelope - such as education, health, child care, welfare, or justice - to see how the interrelations between all of these areas influence children before they reach age six. The EDI is a central data source, providing information about children's development at the neighbourhood and community level that can be understood in the context of the child's social ecology and physical geography.

5. A Dialogue About Early Learning and Child Care Measurement in Ontario

How children learn and develop is complex. Designing measures and methods for assessing growth and development and evaluating program quality are complex tasks. Taking stock of how children are doing is a first step. But early child development measurement must extend beyond monitoring human development to understanding the multiple factors that influence that development. Measuring early child development includes assessing ongoing developmental

progress and outcomes, evaluating children's environments and monitoring the impact of various early environments, on the development of all children in local communities and across the province. While measurement is here to stay, the question of 'how well' measures and measurement schemes are working should also be ongoing. Practitioners and policy makers need to ask whether the right tools have been chosen and whether the purposes of assessment are being served.

A series of questions about the broad goals of measuring will help to frame the conversation in Ontario. Counting heads or discrete measures of task achievement may be easier than grounding measurement in a holistic understanding of childhood and in the intersection of the multiple environments of children's daily lives. But without a clear understanding of why we are measuring children and their environments, it is difficult to know what to measure and how to do it.

What do we want to measure?

- What is important? What is valued? What is the image of the child?
- What principles should be in place to guide measurement?

What is the purpose of measurement?

- What decisions will be made on the basis of the measurement? Results of individual level assessments are only applicable to an individual child. If child assessments are to be used to make decisions about an individual child, more information is needed than if results are to be aggregated and only used at a group level. In contrast, group-level assessments (usually aggregated individual level assessments) are used for making decisions at a broader level such as the school, community, state or country, regarding policy, evaluation, and planning.

What measurement tools should we use?

- Was the measure developed locally or adapted from another country or cultural context? All measurements should be culturally relevant for the target population and represent agreed upon definition and concept of what child outcomes are important. If instruments are adapted from one country to another, they should first be pilot tested on socio-economic and regionally diverse samples of children in the region of interest.
- Does the measurement tool provide information about what we want to measure?

How well is measurement working?

- Are practitioners seeing their evidence of success for children's progress in their formative use of child assessment?
- Are results being shared with all relevant stakeholders so conditions and outcomes improve for children

- Are practitioners trained in the competent and critical use of assessment, evaluation and monitoring?
- Are the tools chosen appropriate for the measurement purpose; are they reliable and valid
- Are the costs and benefits of measurement schemes being weighed in local investigations.

Measurement can be helpful at many levels but is always a means to an end, not an end in itself. Making it work starts with picking or designing the right tool for the intended purpose. How it's working and how it can be improved should be constant questions for practitioners and for policy makers.

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Appendix Two - Fact Sheets

Appendix Three: Survey Questions