



**Identifying the Measurement Needs of the
Edmonton Early Childhood Community: A Brief Synopsis**

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Development of ECMERC

Based on the call for a systematic approach to understanding the complex assessment needs of the Edmonton early childhood community, two years of funding was secured from the Social Development Partnership Program to develop the Early Childhood Measurement and Evaluation Resource Centre (ECMERC) at the Community-University Partnership for the Study of Children, Youth, and Families (CUP). By developing an ECMERC, child care workers, program directors, researchers, policy makers, funders, and others in the early childhood development community will:

- Have access to relevant and appropriate assessment resource materials.
- Increase their knowledge about the use, value, and limitations of relevant assessment practice and tools.
- Have increased and timely access to appropriate expertise and consultations regarding general assessment practices, as well as particular tools.
- Engage in ongoing dialogue and discussion among themselves and with measurement experts, researchers and policy makers to improve understanding of effective assessment in practice and theory.

In an attempt to guide the development of ECMERC and meet the measurement and evaluation needs of the Edmonton community, this study surveyed the current measurement knowledge, practice, and tool use of early childhood professionals.

Measuring Early Childhood Development

Research across disciplines has confirmed the importance of the first few years of life in setting the foundation for long-term learning, behaviour, and health outcomes (Nelson, 2002; Shonkoff & Phillips, 2000). Difficulties in early childhood are often associated with later troubles in school performance, social adjustment, and health (Campbell & Ramey, 1994; Hertzman, 1999; McCain, Mustard, & Shanker, 2007). Despite the importance of the early years, not all environments and experiences in early childhood are optimal and it is estimated that one quarter of Canada's children from birth to six experience difficulties associated with learning and/or behaviour (McCain et al., 2007). Recent findings suggest that assessment followed by early intervention can help to circumvent the negative effects of certain early factors on later outcomes (Glascoe, 2000).

Given the relevance of assessment in early childhood development and programming and in light of the positive outcomes that can result from accurate assessment and intervention, early childhood educators have begun to play an increasingly important role in the initial screening and assessment of young children. While this added responsibility is likely to benefit many young children, it is unclear whether early childhood educators have sufficient education and training to determine the appropriateness or the quality of available assessment tools. Not only is the education and training of early childhood educators and professionals in the areas of screening and assessment important, the tools

they use must be valid and reliable to adequately capture and reflect early development such that early supports and intervention optimally address the needs of young children. To date, there have been few studies examining the current assessment knowledge and practice of early childhood educators and professionals, and the tools that are most widely used by this population (Allen, 2007; Brown & Rolfe, 2005; Pretti-Frontczak, Kowalksi, & Brown, 2002).

The use of developmentally appropriate assessment is a critical aspect of early childhood research, development, and intervention (Pretti-Frontczak et al., 2002). When using best practices, assessment is useful in enabling professionals and educators to identify functional objectives for children and families, provide information of preferred learning styles, and track the progress of children (Neisworth & Bagnato, 2004). Despite its usefulness, many factors contribute to the efficacy of early childhood assessment including examiner characteristics (knowledge and training), properties and types of measures utilized (psychometrics), and the specific purposes for engaging in assessment (Sattler, 2004).

These factors are largely under researched and therefore, the purpose of this research was conducted to address the gaps in the literature and answer the following questions: (1) what is the current assessment knowledge of individuals working in the early childhood field? (2) What purposes do early childhood professionals use assessment tools? and (3) what are the current assessment tools used by early childhood professionals and are they meeting their needs appropriately?

Methods and Procedures

Survey Instrument

Using information obtained from a review of the literature and a focus group of 10 representatives from the Edmonton early childhood community, including program directors, front line workers, policy makers, funders, and researchers, a comprehensive survey instrument that measured assessment knowledge, practice, and tool use and efficacy in the early childhood community was developed. The questionnaire was composed of closed formed questions, likert scales, fill in the blank, and open ended questions. The questionnaire comprised the following sections:

- Background Information
- Knowledge and Competency
- Issues and Needs
- Tool Use

Participants

The questionnaire was distributed to a target population of individuals and/or programs that had been identified as engaging in measurement with children aged birth to six years. A total of 430 paper-based and 100 email questionnaires (n = 540) were distributed. The sample consisted of individuals and/or programs representing early childhood educators

(i.e., kindergarten and preschool teachers), community daycares, family day homes, early childhood professionals (e.g., speech and language pathologists, and psychologists), and early intervention personnel (i.e. head start and parent link). The final response rate was 29.4% (n = 159).

Results

Three findings emerged from the survey research and are as follows:

- early childhood professionals are interested in increasing their knowledge about assessment and early identification;
- there is diversity in the use of screening and assessment tools; and
- there is a need for training around culturally appropriate assessment and programming.

The salient results that emerged from each of the four sections of the questionnaire are described below.

Section 1: Background Information

The first section of the questionnaire probed participant demographic characteristics such as gender, educational background, years working in early childhood, current occupation, services provided by organization, ages of clientele, and cultural populations served. The majority of participants reported that the highest level of education they had obtained was at the undergraduate level (56.8%), with a range from high school to graduate level training. The average age of clientele they serve was aged 4 and 5, which is not surprising given that kindergarten teachers made up the largest group of respondents (n = 68, 42.8%) followed by directors of centre's or programs as the second largest group (n = 42, 26.9%). A number of participants reported that they work with culturally diverse children and their families. In particular, Eastern Asian, Aboriginal, South Asian, and African were the most frequently cited, followed by Eastern and Western European, and South American.

Section 2: Knowledge and Competency

This section consisted of questions about the main purposes for engaging in screening, assessment, and evaluation; and participants perceived knowledge/competency and level of importance of a number of measurement practices. In the area of screening three main purposes were identified: *identify special needs/disability*, *identify children at-risk*, and *support learning*. In the areas of assessment and evaluation, the same two purposes were listed, *support learning* and *communicate progress*. Additionally, respondents listed *access to funding* as a main purpose of assessment, and *program evaluation* as a main purpose of evaluation.

The level of a participants' knowledge/competency in a given measurement area (general measurement, screening, assessment, and evaluation) was compared against the level of importance they placed on being knowledgeable and competent in this particular area for their job. Results indicated that there were significant differences between 15 of the 19

items. On average, when respondents replied that they were *knowledgeable* in a particular measurement area (4 point response), they considered it only *somewhat important* (3 point response) that they were knowledgeable/competent. On the other hand, if they were *somewhat knowledgeable/competent* (3 point response) in a particular area they believed that it was *important* that they were knowledgeable/competent (4 point response) for their position.

Section 3: Issues and Needs

The third section asked questions about the importance of tool selection and use; participants' perceptions of testing procedures; and areas where they perceive they require more training. Participants reported that the top five factors that influence their selection of measurement tools included *suitability for children with a variety of needs, provides insights into children's strengths and needs, reliability, validity, and ease of use*. Participants also reported that they neither agreed nor disagreed that they and/or their staff are properly trained and prepared to conduct and interpret screening, assessment, and evaluation tools.

Participants were asked to rate their level of interest in learning more about a number of measurement topics. Approximately 80% of respondents indicated that they were either interested or extremely interested in learning more about how to link results to programming and instruction; how to interpret results and share the information with parents; and how to use tools with culturally diverse populations. To further explore training needs, two open-ended questions were provided to determine if there were additional issues that early childhood professionals' deal with and what resources and services would they consider helpful. Some participants commented on a lack of resources within their organization and within the city for dealing with early childhood measurement.

A number of participants suggested that the following resources would be beneficial to them and their organization:

- “having available tools to borrow and training on them. Information on evaluation and how it relates to curriculum development;”
- “easier access to tools and education on how to implement them;”
- “training in the use of specific screening tools, the difference between screening and assessment, interpretation of screening tools, and making appropriate referrals and follow-up;” and
- “workshops that provide knowledge to early childhood educators on how to identify delays.”

Section 4: Tool Use

The final section of the questionnaire was aimed at determining the number and types of screening, assessment, and/or evaluation tools that each participant uses in their practice, the level of training they have on the tool, and what they use the information that they gather from the tool for in their practice. The results suggested that there is large diversity

in the types of tools used by early childhood professionals. In total, 240 tools were listed by participants with significant overlap among specific tools reducing the total to 52 unique tools. Of the 52 tools, the following seven were the most frequently cited:

- Nipissing District Developmental Screen (NDDS)
- The Brigance Inventory of Early Development
- Diagnostic Inventory for Screening Children (DISC)/DPS
- Ages and Stages Questionnaires (ASQ)
- Clinical Evaluation of Language Fundamentals – Preschool second edition (CELF-P2)
- Preschool Language Scales – Fourth Edition (PLS-4)
- Developmental Indicators for the Assessment of Learning (DIAL)

The tools that were listed by participants were recoded to reflect four categories including screening, assessment, observation, and curriculum-based. Results indicated that 40% of participants are using screening tools, 31% are using observational tools, 22% are using assessment tools, and 7% are using curriculum-based tools. On average, 42% of the participants reported using more than one type of tool in their practice while 58% reported either using only one tool or no tool at all. Across the 240 responses, which include all four categories of tools, 61.2% of participants reported no training or 1 day/in-house training.

Discussion

By surveying early childhood professionals' in the Edmonton area about their knowledge, use, and purpose for engaging in measurement, the questionnaire presented in this paper attempted to fill a gap in the Canadian literature, inform the continued direction of ECMERC, and disseminate knowledge about the needs of early childhood professionals. The results are consistent with and extend previous studies conducted in Australia and the U.S. (Allen, 2007; Brown & Rolfe, 2005; Pretti-Frontczak et al., 2002). This study goes beyond the specific tools used and the factors influencing tool selection by also focusing on the knowledge, competencies, and training needs of early childhood professionals.

The 159 participants were primarily kindergarten teachers and program directors and comprised a sample of convenience, which restricts generalizations to all early childhood professionals and educators that did not participate. A significant portion of the questionnaires were distributed to childcare centres with a disproportionate return rate. This is problematic because a significant number of children are served by childcare centres and it is difficult to anticipate their level of knowledge or training needs without sufficient participation.

Participants ranked the main purposes they engage in screening, assessment, and evaluation. The reasons were appropriate across all measurement areas with the exception of *identify special needs/disability* in the area of screening and *access funding* under assessment. The screening purpose cited is problematic to the extent that the identification of special needs/disability is not a function of screening (Rydz, Shevell, Majnemer, & Oskoui, 2005). This may suggest that the majority of participants lack

knowledge about the purposes of screening, the differences between screening and assessment, and the limitations of screening. Access to funding should not be considered a main purpose to engage in assessment in light of best practices; it is the reality, however, that a number of programs need funding in order to provide appropriate programming for children.

Almost all participants reported sometimes, often, and almost always to modifying testing procedures to accommodate children with disabilities and/or children from diverse cultural backgrounds. If significant changes are made to the measurement procedure or to specific questions or items on the assessment, this can impact the validity of the results. Modifications to assessment tools are problematic given the validity implications, however, a number of commercially produced assessments do not reflect the diversity of Canada's population in terms of exceptionalities and culture (Pavri & Fowler, 2001).

There were significant differences between a participant's level of knowledge/competency and the level of importance they placed on it in relation to their job. When respondents reported that they were *knowledgeable* in a particular measurement area, they considered it *somewhat important*. On the other hand, if they were *somewhat knowledgeable/competent* they believed that it was *important* that they were knowledgeable/competent. If respondents possessed a level of knowledge and competency in a given area of measurement, it seems contradictory that they would not find it important.

Given that approximately 80% of respondents indicated that they were very interested in learning more about how to link results to programming and instruction, and how to interpret results and share the information with parents, these should be considerations in terms of training for early childhood professionals and the types of resources that are made available. Additionally, participants responded to open-ended questions about needs and resources and suggested that they require easier access to tools, training and education on the specific use of tools, how to make appropriate referrals, and workshops on how to identify delays.

The majority of respondents reported that they are very interested in learning more about how to use tools with culturally diverse populations. With the continued influx of immigrant and refugee families to Canada, the diversity of the children that are served within early childhood programs needs to be a training consideration in light of best practices in assessment (Statistics Canada, 2006).

The top five factors that influence the participants' selection of measurement tools are consistent with findings from previous studies (Brown & Rolfe, 2005; Johnson & Beauchamp, 1987; Pretti-Frontczak et al., 2002), in particular, the ease of use and psychometric properties of reliability and validity. The results suggested that there is large diversity in the types of tools used by early childhood professionals and the questionnaire capture 52 unique tools that fell under the categories of screening, assessment, observation, and curriculum-based. The use of observational tools is consistent with previous findings that suggest that checklists are quick and simple to use,

and usually only require selecting behaviours or skills as they occur (Brown & Rolfe, 2002). The use of curriculum-based measures is not surprising given that the majority of participants were kindergarten teachers and they typically need to link skills and outcomes to curricular objectives.

It is promising that 42% of the participants reported using more than one type of tool in their practice, as this is consistent with previous findings (Johnson & Beauchamp, 1987; Pretti-Frontczak et al., 2002) and in line with best practices (NAEYC, 2003). The limited amount of training that participants' reported receiving across the four categories of tools is problematic given that in order to adequately administer and interpret certain tools more training is required. Without training and education in the selection and use of appropriate assessment practices and tools, the validity of the inferences that are drawn from these assessments is compromised, and thus so are early learning opportunities and supports.

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