

RESEARCH-TO-PRACTICE SUMMARY

Enhancing Early Childhood (EC) Professionals Knowledge and Practice of Measurement

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Identification of difficulties in early childhood through screening and assessment, followed by intervention, can support positive long-term outcomes. For this reason, it is imperative that early childhood (EC) professionals select high quality tools and use them appropriately. This article reports on survey research of early childhood (EC) professional's knowledge, the tools used in practice, and the extent to which the tools met their needs and were used appropriately. EC professionals that participated (n=159) reported a very high interest in professional development and for the most part had received little to no training for the tools and procedures they were currently using in practice. They identified the following as areas of focus: a need for measurement standards across programs; training in the selection and/or modification of measurement tools/procedures to meet individual program and professional needs; cross-cultural knowledge in assessment processes; and how to link measurement information to programming.

The early years of a child's life set the foundation for their long-term learning, behaviour, and overall health outcomes (Maggi, Irwin, Siddiqi, & Hertzman, 2010; McCain, Mustard, & Shanker, 2007; Shonkoff & Phillips, 2000). Disadvantaged experiences in these early years have been associated with later troubles in school performance, social adjustment, and general health and wellbeing (Hertzman, 1999; VanLandeghem, Curgins, & Abrams, 2002). Early detection of cognitive, communication, physical, and social-emotional difficulties, along with an understanding of the environments in which children learn and grow provides important developmental information. This information can guide referral, early intervention programming and funding, all of which can promote healthy development (American Academy of Pediatrics, 2001; Meisels & Atkins-Burnett,

2000). Thus, the measurement of early childhood development and programming is an important subject for professionals, researchers, and policymakers.

In the early childhood literature and the field of practice, three complementary and often overlapping forms of measurement - screening, assessment, and evaluation - are described (Appl, 2000). Each plays a critical role in enhancing the understanding of a child's development, the environments in which they develop, and the effectiveness of interventions and programs for supporting development. *Assessment* can be considered a process of gathering information and observations and making decisions about individuals based on the information gathered (Bredekamp & Copple, 1997). The term *screening* is often incorrectly used synonymously with *assessment*, however screening is commonly differentiated to be a purpose of assessment. *Screening* can be defined as the use of a brief procedure or measurement tool designed to identify, from within a large population of children, those who may benefit from further assessment to verify developmental and/or health risks (Martella, 2004). Finally, the effectiveness of programs implemented to enhance children's potential is determined through evaluation. *Evaluation* as it relates to early childhood can be defined as the measurement, comparison, and judgment of the value, quality or worth of children's work and/or of their schools, teachers, or a specific educational program based upon valid evidence gathered through assessment (Martella, 2004).

BEST PRACTICES

Standards have been developed to guide best practices in early childhood assessment and programming (Administration for Children and Families, 2003; AERA, APA, & NCME, 1999; NAEYC, 2003, 2009; National Association of School Psychologists (NASP), 2005; National Education Goals Panel, 1998). These guidelines are incorporated into many program performance standards and policies (e.g., Head Start see U.S. Department of Health and Human Services, 2007) across Canada and the United States. What is consistent across these standards is the importance of using research-based assessment methods and tools that possess adequate psychometric properties, and are accurate for the child being assessed. Since assessment and intervention can lead to positive outcomes, early childhood (EC) professionals, such as Head Start teachers and early learning and care staff, play an important role in the initial screening and assessment of young children. While this has the potential to benefit children, the many factors that contribute to the efficacy of early childhood assessment including examiner characteristics (e.g., knowledge and training), properties and types of measures utilized (e.g., psychometrics), and the specific purposes for engaging in assessment, are not well understood. To date, few studies have examined the current assessment knowledge and practice of early childhood educators and professionals (e.g., Allen, 2007; Brown & Rolfe, 2005; Pretti-Fontczak, Kowalksi, & Brown, 2002).

Important trends have surfaced when considering the available measurement literature in the field of early childhood. Early childhood professionals are skilled practitioners; however they may not be trained in test administration and they may have limited knowledge of best practices in assessment (Shepard, 1994). This is problematic when making decisions about the selection and use of early childhood measurement tools

(Pretti-Frontczak et al., 2002). A study by Brown and Rolfe (2005) found that EC professionals choose assessment tools based on “ease of use,” whereas pre-service early education students reported the “accuracy of the instrument” as their primary rationale for measurement selection. A large-scale study of the implementation of best assessment practices among teachers in Ohio revealed that teachers with higher levels of education reported using a larger range of assessments, and there was widespread use of self-developed or program-developed assessment tools (Pretti-Frontczak et al., 2002). Studies have also found that due to frustrations with the inadequacy of current measurement tools in meeting their needs, EC professionals may create and/or modify existing tools without a clear understanding of the validity and reliability implications (Allen, 2007; Appl, 2000; Pretti-Frontczak et al., 2002). In addition, with budgetary constraints and lack of measurement savvy, one tool may be used for multiple purposes, and some purposes may not match the intended purpose (Hirsh-Pasek, Kochanoff, Newcombe, & Villiers, 2005). Without support and education in the selection and use of appropriate assessment practices and tools, decisions made as a result of assessment may be compromised and thus, impact early learning opportunities and supports.

A STUDY OF EARLY CHILDHOOD PROFESSIONALS MEASUREMENT KNOWLEDGE

Gokiert, Noble, and Baugh Littlejohns (2013) conducted a study to understand EC professional’s measurement knowledge, the tools used in practice, and the extent to which the tools met their needs and were used appropriately. A comprehensive survey was developed and implemented for this research. The survey instrument was developed in two stages. First, a review of the literature was conducted to identify key definitions, concepts, and issues in EC measurement, and from this information a preliminary survey was developed. Secondly, the preliminary survey was pre-tested through a focus group with ten individuals working within the EC field. To enhance the relevancy of the tool to the local context participants were selected to represent front-line service delivery (i.e., early intervention, childcare, head start, Aboriginal and immigrant serving agencies, social and health services sectors), and funding agencies. Focus group participants reviewed and evaluated the survey instructions and each question with respect to clarity, relevance and purpose, and response formats.

Survey instrument and participants

The final survey instrument was comprised of 68 close- and open-formed questions, likert scales, and fill in the blank questions across four sections: (1) background information, (2) measurement knowledge and competency, (3) measurement issues and needs, and (4) measurement tool use. Definitions for assessment, screening, and evaluation were provided for participants to refer to while completing the survey. EC professionals (n=159) such as early childhood educators, Directors of early learning centres, head start educators, early intervention, speech pathologists, and home visitors completed online or paper and pencil surveys.

Summary of survey results

Majority of respondents were educated at the post secondary level (56.8% with undergraduate degrees and 21% with a Master's degree) and had many years of experience in the early childhood development field (70.2% had > 6 years of experience). Over half of the respondents reported that they serve populations of children that are typically developing, from diverse cultural backgrounds (e.g., immigrant, refugee, and Aboriginal) with English as a second language, children with disabilities, and children exposed to at-risk conditions (e.g., poverty). Respondents reported a very high interest in professional development and for the most part had received little to no training for the tools and procedures they were currently using in practice. Furthermore, moderate to large effects were found between participants measurement knowledge (across screening, assessment, and evaluation), perceived competence, and identified importance for practice. The more knowledgeable and competent a participant believed they were, the less important they deemed the importance for their practice. The majority of respondents (93.9%) reported that they modify measurement procedures. This is problematic as it can have implications with respect to reliability and validity of the tool, and ultimately the interpretations and use of results. Respondents highlighted various measurement issues and needs in terms of professional development and these included: the need for measurement standards across programs; how to appropriately select and/or modify measurement tools/procedures to meet individual program and professional needs; cross-cultural knowledge in assessment processes; and how to link measurement information to programming.

DISCUSSION AND IMPLICATIONS FOR PRACTICE

The majority of respondents had post secondary education and many years experience, however, well over half reported that they are administering measurement tools with little to no training. For this reason, the need for ongoing and targeted professional development is called for to support best practice for all who work in the early childhood field. It is also clear that professional development activities should be planned in close collaboration with EC professionals to address areas considered to be of high importance.

Best practice in measurement purpose and programming

Early childhood professionals are required to use best practices in assessment and programming and this is typically outlined in organizational policies and procedures. To ensure best practices all staff from Directors to front line service delivery need a firm understanding of the purposes of various forms of measurement, resources to support their work in assessment, and how the information gathered can be used to better understand children's strengths and needs. In order to enhance practice and programming the following could be considered starting points for professional development:

- Identification of best practices particularly with respect to the differences and purposes of the three main measurement modalities (screening, assessment, and evaluation) and the importance of gathering information across multiple areas of development (i.e., cognitive, behavioural, language, and physical).
- Selection of measurement tools based upon the quality of the tool (e.g., reliability and validity).
- Implementation of reflective practice whereby staff work together and discuss the measurement choices they are making and how they are using the results to inform process and practice.
- Consideration of complementing conventional assessment with authentic assessment, that is, gathering evidence on an ongoing basis in natural settings or contexts.
- Collaboration between experts in measurement (e.g., university-based researchers) and EC professionals to consider relevant and appropriate modification and/or selection of measurement tools for specific populations and contexts.

Cross-cultural considerations in measurement

Many of the respondents in this study reported that they work with culturally and linguistically diverse children and families; however, they do not feel competent or knowledgeable about appropriate assessment techniques for these groups. Given the changing demographics of North America as a result of immigration, it is increasingly important for EC professionals to use a cross-cultural lens when selecting measures, interpreting the outcomes, and determining programming and services required. This can be accomplished through culturally sensitive measurement practices that involve the following:

- Develop cultural self-awareness by understanding the socio-cultural differences related to norms and expectations of child development across cultures, as well as the pre- and post-migration experiences of children and families. This can be accomplished by using cultural brokers or interpreters in getting to know the child and family and their unique strengths and needs.
- Integrate contextually based assessment methods (see for example the discussion regarding authentic assessment in Bagnato, 2005) and relevant cultural data into the process of measurement and interpretation of results.
- Debrief results with the family (with the support of a cultural broker) and together determine the most appropriate intervention process thereby validating the family's cultural belief system.

CONCLUSIONS

Participants reported a need for measurement standards across all programs that are delivering services for young children. Presently, in most provinces across Canada there

are no set standards for the types of early childhood screening and evaluation tools that should be used, how often they should be used, and for what purposes. There are some provincial standards that support the use of certain standardized assessment tools as they relate to coding and funding. Not only are standards needed to guide measurement practice; there is a need for ongoing and targeted professional development opportunities to support best practice for all who work in the early childhood field.

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