



Validity of the Asset-Based Context Matrix

Linda L. Wilson
Donald W. Mott

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ABSTRACT

The validity of an assessment/intervention tool for providing young children interest-based natural learning opportunities was assessed in a pilot study of seven early childhood practitioners. Findings indicated that the practitioners rated the assessment/intervention tool more useful for intended purposes compared to nonintended purposes. Next steps in further establishing the validity of the scale are discussed.

INTRODUCTION

The purpose of the study described in this *CASEinPoint* was to assess the usefulness and validity of the Asset-Based Context (ABC) Matrix. The ABC Matrix is an assessment tool for developing interventions for children in natural learning environments (Wilson, Mott, & Batman, 2004). As part of instrument development, the ABC Matrix was field-tested to determine whether the ABC Matrix yielded information more useful for natural learning environments assessment and intervention compared to a focus on identification of child deficits or deficiencies. Findings from this field testing are described in this paper.

The Asset-Based Context (ABC) Matrix is a contextually-based assessment tool that uses children's everyday interests and abilities as factors promoting children's participation in natural learning environments (Dunst, 2004; Dunst et al., 2001; Dunst & Humphries, 2003). The tool is useful to practitioners and parents for gathering functional and meaningful information for developing and implementing interventions and activities in natural learning environments having contextually-based benefits.

The ABC Matrix is based on the premise that "natural environments are not places, but the everyday routines, experiences, and activities occurring in different social and nonsocial contexts as part of family and community life" (Raab & Dunst, 2003, pp. 3-4). The framework guiding the development of the ABC Matrix focuses on assessment outcomes resulting from children's opportunities to express interests and assets; children's use of functional and meaningful interactions to move, communicate, and interact with people and objects; and children's involvement in everyday activities as part of

the child's participation in family life, community life, and early childhood settings.

The need for tools like the ABC Matrix is perhaps best illustrated by the fact child and family outcomes on Individual Family Service Plans (IFSP) and Individual Education Plans (IEP) typically do not include natural environments as contexts for learning (Campbell & Halbert, 2002; Dunst, Bruder, Trivette, Raab, & McLean, 1998; McWilliam, Ferguson, Harbin, Porter, & Vaderriere, 1998). Dunst et al. (1998), for example, examined the content of IFSPs and IEPs from early intervention and preschool programs in eight states. They evaluated the extent to which more than 3,000 IFSP outcome statements and IEP objectives were described in the context of natural environments. They found that only 1.3% of outcomes and objectives examined were described in terms of everyday family activities, and only 0.4% of these statements were described in the context of everyday community activities. In addition, more than half (57%) of the outcomes examined on IFSPs were deemed to have little or no likelihood of promoting a child's participation in everyday family or community activities.

METHOD

Participants

The participants were practitioners from seven different disciplines (nursing, early childhood education, occupational therapy, physical therapy, psychology, social work, and speech and language therapy) who had one to 23 years experience working in early childhood programs. The practitioners were all employed by the same early childhood intervention program. The practitioners field-tested the ABC Matrix with nine families and their children over a six-month time period.

The nine children ranged in age from 4 to 27 months (Mean = 14.77, SD = 8.79). Their diagnosis or identified conditions included prematurity, chromosomal abnormalities (e.g., Down syndrome, Turner syndrome, Pearson syndrome, & Bartter syndrome), autism, and other conditions placing them at risk for developmental delays (e.g., demyelination disorder, infantile spasms, and arthrogryposis). They were involved in the early childhood intervention program an average of 8.50 months (SD = 7.76) at the time the study was conducted (Range = 2 weeks to 23 months).

During the field-testing, five practitioners implemented the ABC Matrix with one family each, and two practitioners each implemented the ABC Matrix with two families. All the practitioners had at least three years experience using traditional assessment procedures, and were familiar with the foundations of providing interventions in natural learning environments.

Implementation

Practitioners were introduced to the conceptual framework of the ABC Matrix by attending an informal presentation and discussion about the tool. The practitioners were informed that the ABC Matrix was designed to help them gather meaningful assessment and intervention information, which could be used to assist the practitioner and parents in planning contextually-based interventions and learning opportunities for young children. They learned to use the ABC Matrix by gathering assessment information from the families participating in the field-testing, and also had several opportunities to meet, ask questions, and discuss their experiences with the study investigators. Several modifications were made to the original ABC Matrix based on practitioner feedback.

Instrument

A nine-item scale was used to obtain practitioner feedback about the usefulness of the ABC Matrix. The scale measured three different dimensions of child assessment and intervention practices: (1) parent participation in the assessment process, (2) intervention planning, and (3) child diagnostic and developmental concerns (see Table 1). Each dimension included three items rated on a five-point scale ranging from not at all helpful to extremely helpful to practitioners conducting assessments and developing meaningful outcomes and interventions in natural learning environments. The sums of the ratings for each set of items were used as the dependent measure in the analysis described below.

Research Design

The validity of the ABC Matrix was established by comparing the assessment process and intervention planning scores with the diagnostic/developmental concerns scores. We hypothesized that the former two scores would not differ from each other and that both of these scores would be significantly different from the diagnostic/developmental concern scores. The latter was expected because a determination of child diagnosis and developmental status is not a focus of the ABC Matrix assessment process (Wilson et al., 2004). Shadish, Cook, and Campbell (2002) describes this type of differential hypothesis testing as one way of ascertaining the validity of a measurement scale.

A quasi-experimental within group design (Shadish, Cook, & Campbell, 2002) was used to analyze the data. Both parametric and nonparametric tests for between subscale scores were used to evaluate within group differences. Inasmuch as both analyses produced identical results, only the parametric ANOVA results are reported. Cohen's *d* effect sizes (ES) for the differences between mean scores were determined by dividing these

Table 1
Scale Items Completed by Practitioners Rating the Helpfulness of the ABC Matrix

Dimension	Scale Items
Parent Participation in the Assessment Process	<p>How helpful was the ABC Matrix as a framework for talking with parents about their child’s participation in natural learning environments?</p> <p>How helpful was the ABC Matrix in obtaining parent’s descriptions of their child’s participation in natural learning environments?</p> <p>How helpful was the ABC Matrix in involving the child’s parents as partners in the assessment process?</p> <p>How helpful was the ABC Matrix in providing opportunities for parents to identify their child’s strengths, abilities and skills?</p>
Intervention Planning	<p>How helpful was the ABC Matrix in providing information useful for intervention planning?</p> <p>How helpful was the ABC Matrix in providing information useful for writing outcome goals and action steps on the IFSP that reflect the child’s participation in natural learning environments?</p>
Child Diagnosis and Developmental Concerns	<p>How helpful was the ABC Matrix in establishing a child’s developmental level of performance?</p> <p>How helpful was the ABC Matrix in providing information relevant to establishing a diagnosis?</p> <p>How helpful was the ABC Matrix in obtaining information for understanding the parent’s concerns about their child’s development?</p>

differences by the pooled standard deviation for the subscale scores.

RESULTS

Figure 1 shows the mean scores for the three assessment/intervention scales. The one-way repeated measures ANOVA produced a significant difference between the subscale scores, $F(2, 12) = 9.28, p < .01$. As predicted, the assessment process ($M = 9.71, SD = 1.89$) and intervention planning ($M = 9.71, SD = 2.29$) scores did not differ statistically from one another, $F(1, 6) = 0.00, p = 1.00, ES = 0$, whereas the diagnosis/developmental concern scores ($M = 6.00, SD = 2.99$) differed significantly from the assessment process scores, $F(1, 6) = 37.56, p < .001, ES = 1.55$, and the intervention planning scores, $F(1, 6) = 8.35, p < .05, ES = 1.43$.

DISCUSSION

The ABC Matrix is an assessment and intervention planning tool specifically developed for natural learning environment practices (Wilson et al., 2004). Findings

from this study indicated that the practitioners found the ABC Matrix more useful for intervention-based assessment and planning compared to identifying child diagnosis and developmental concerns. The results provide

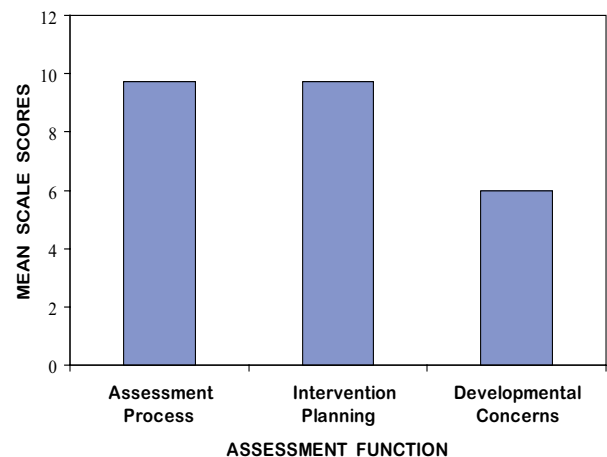


Figure 1. *The mean subscale scores for measuring different dimensions of child assessment and intervention practices.*

preliminary evidence supporting the validity of the ABC Matrix for intended purposes. More specifically, findings showed that practitioners found the ABC Matrix more useful for: (1) involving parents in the assessment process, (2) gathering information useful for natural learning environment intervention planning, and (3) linking assessment and intervention planning information.

The next steps in the development and validation of the ABC Matrix is to further evaluate the extent to which practitioners using the ABC Matrix find the tool helpful for developing asset-based, functional, contextual IFSP and IEP outcomes. This is being accomplished in a larger study of early childhood intervention practitioners using a more detailed evaluation tool for assessing the usefulness of this approach to assessment and intervention. The purpose of this study was to discern the differential validity of the ABC Matrix for different kinds of assessment and intervention practices.

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AUTHORS

Linda L. Wilson, M.A., (Linda.L.Wilson@ncmail.net) and Donald W. Mott, M.A., (Don.Mott@ncmail.net) are Senior Coordinators, Family, Infant and Preschool Program, and Investigators, Center for the Advanced Study of Excellence in Early Childhood and Family Support Practices, J. Iverson Riddle Developmental Center located in Morganton, North Carolina.