

# Quality in Early Childhood Care and Education Settings: A Compendium of Measures

This document was prepared under Contract # HHSP233200500198U with the Administration for Children and Families, U S Department of Health and Human Services.

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**November 2007**

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### ***Suggested Citation:***

Halle, T., & Vick, J. E. (2007). Quality in Early Childhood Care and Education Settings: A Compendium of Measures. Washington, DC: Prepared by Child Trends for the Office of Planning, Research and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services.

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# Acknowledgements

The authors would like to thank the Office of Planning, Research and Evaluation of the Administration for Children and Families, U.S. Department of Health and Human Services for supporting this work. In particular, we are grateful to Dr. Ivelisse Martinez-Beck for identifying the need for this work and supporting the development of this document through her invaluable feedback and suggestions.

We would like to acknowledge the developers of the measures included in this compendium, and are especially grateful to those who took the time to review and provide feedback on the profiles of their measures. This helped to ensure that we have included the most updated information on the measures at this time.

The authors would also like to thank Dr. Martha Zaslow and Dr. Kathryn Tout who helped conceptualize this project, provided input throughout its development, and reviewed this document in its draft form and provided feedback throughout the production of this document.

Finally, we would like to recognize and refer readers to three other measures compendia which may add supplementary information to that which is provided in this compendium.

- *Early Childhood Measures Profiles Compendium* (2004)  
<http://aspe.hhs.gov/hsp/ECMeasures04/report.pdf>

<http://www.childcarereseach.org/SendPdf?resourceId=8634>

This Early Childhood Measures Profiles Compendium, created for the SEED (Science and the Ecology of Early Development) Consortium of federal agencies, includes information on child outcome measures in the following domains: approaches to learning, general cognitive skills, language, literacy, math, ongoing observations, social-emotional functioning, and Early Head Start. The format and topic headings for measures profiles used in the current compendium were modeled after the SEED compendium of Early Childhood Measures.

- *Measuring Youth Program Quality: A Guide to Assessment Tools* (2007)  
[http://www.forumfyi.org/Files/Measuring\\_Youth\\_Program\\_Quality.pdf](http://www.forumfyi.org/Files/Measuring_Youth_Program_Quality.pdf)

This document, developed by The Forum for Youth Investment, is an excellent source for readers seeking information about measures that assess after-school and youth program quality. The authors write, “This guide was designed to compare the purpose, structure, content and technical properties of several youth program quality assessment tools” (Yohalem, Wilson-

Ahlstrom, Fischer, & Shinn, 2007). Periodic updates are planned.

In order to avoid redundancies between measures compendia, we generally do not include profiles for quality measures for school-age settings in the current compendium. An exception is the profile of the School Age Care Environment Rating Scale (SACERS), which was included to provide a complete set of profiles for the Environmental Ratings Scales.

We are grateful to Nicole Yohalem, Alicia Wilson-Ahlstrom, Sean Fischer, and Marybeth Shinn for permitting us to reproduce portions of the Technical Glossary within *Measuring Youth Program Quality: A Guide to Assessment*

*Tools* and to adopt the format for two summary tables from that compendium for use in this compendium.

- *Resources for Measuring Service and Outcomes in Head Start Programs Serving Infants and Toddlers* (2003)  
[http://www.acf.hhs.gov/programs/opre/ehs/perf\\_measures/reports/resources\\_measuring/resources\\_for\\_measuring.pdf](http://www.acf.hhs.gov/programs/opre/ehs/perf_measures/reports/resources_measuring/resources_for_measuring.pdf)

This document was developed by Mathematica Policy Research, Inc. for the Office of Planning, Research and Evaluation to help Head Start programs develop a performance measurement plan. It includes profiles of measures with detailed descriptions, scoring information, psychometrics, and information on training.

## References

- Berry, D. J., Bridges, L. J., & Zaslow, M. J. (Project Coordinators, 2004). *Early Childhood Measures Profiles*. Washington, D.C.: Prepared by Child Trends for The SEED Consortium of federal agencies which include the Office of the Assistant Secretary for Planning and Evaluation of the U.S. Department of Health and Human Services, the National Institute of Child Health and Human Development, and the Office of Planning, Research and Evaluation of the Administration for Children and Families of the U.S. Department of Health and Human Services.
- Kisker, E. E., Boller, K., Nagatoshi, C., Sciarrino, C., Jethwani, V., Zavitsky, T., Ford, M., & Love, J. M. (?). *Resources for Measuring Services and Outcomes in Head Start Programs Serving Infants and Toddlers*. Washington, D.C.: Prepared by Mathematica Policy Research, Inc. for the Office of Planning, Research and Evaluation of the Administration for Children and Families of the U.S. Department of Health and Human Services.
- Yohalem, N., Wilson-Ahlstrom, A., with Fischer, S., & Shinn, M. (2007, March). *Measuring Youth Program Quality: A Guide to Assessment Tools*. Washington, D.C.: The Forum for Youth Investment, Impact Strategies.

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*Note.* ✓ Indicates that the measure has been reviewed by the developer and updated according to his/her feedback. The remaining profiles are currently under review by the developers.

# Introduction

Quality measures were originally developed for research aimed at describing the settings that children spend time in and identifying the characteristics of these environments that contribute to children's development. They were also developed to guide improvements in practice. Increasingly, however, measures of quality are being used for further purposes. In particular, they are being used to guide components of state policies. For example, many states are developing Quality Initiatives and employing measures originally created for research or for guiding improvement in practice for the new purpose of assigning quality ratings to early care and education settings. States are also using these measures to monitor change in quality over time.

The *Quality in Early Childhood Care and Education Settings: A Compendium of Measures* is being compiled by Child Trends for the Office of Planning, Research and Evaluation of the Administration for Children and Families, U.S. Department of Health and Human Services, to provide a consistent framework with which to review the existing measures of the quality of early care and education settings. Our aim is to provide uniform information about quality measures. It is hoped that such information will be useful to researchers, practitioners, and in informing the measurement of quality for policy-related purposes.

## Criteria for Inclusion

The measures included in this compendium are in various stages of development. Some are new measures

that have recently been validated, while others have been in existence for over twenty years and have gone through several rounds of revision. Some of the included measures are widely known and recognized, and others are quickly gaining popularity.

Our criteria for inclusion in this measures compendium were as follows:

- The measure is used in early care and education settings to assess the quality of the setting.
- Psychometric information about the measure is available.
- The measure can be obtained for use.
- Where possible, the most current version of a measure is highlighted; minor variations on a measure are not included.

Developers of the measures were contacted and asked to review the summaries for accuracy and completeness. Profiles were updated and revised based on input received from the developers. Several profiles are still under review; these profiles are identified as “under review” in the page header of the profiles.

We view this compendium as a document which will require updating on a periodic basis. We list measures currently under development, for which psychometric information is not yet available on the next page. We anticipate that these measures will be included in an updated edition of this compendium.

## Contents of the Compendium

The following are the categories of information we gathered on each measure within this compendium:

- **Background Information**
  - Author and publisher of the measure
  - Purpose of the Measure
  - Population Measure Developed With
  - Age Range/Setting Intended For
  - Ways in which Measure Addresses Diversity
- Key Constructs & Scoring of Measure
- Comments
- **Administration of Measure**
  - Who Administers Measure/Training Required
  - Time Needed and Cost
- **Functioning of Measure**
  - Reliability Information
  - Validity Information
  - Comments



## Measures under Development\*

- **Child Observation in Preschool (COP)**
  - Child-focused observational tool used to examine how children are spending their time in the classroom
- **Environment and Policy Assessment and Observation (EPAO)**
  - Observation tool used to evaluate the Nutrition and Physical Activity Self-Assessment for Child Care (NAP SACC) program
- **Preschool Classroom Mathematics Inventory (PCMI)**
  - Observation inventory that assesses the extent to which materials and strategies in the classroom support children's early mathematical concept development
- **Preschool Classroom Snapshot (Snapshot)**
  - Observation measure used to obtain information on how children are grouped in a classroom, activities that are occurring, and adult interactions with the group.
- **Supports for English Language Learners Classroom Assessment (SELLCA)**
  - Observation tool that measures to what extent preschool teachers and the classroom environment support the development of English Language Learners.

\*Measures under development are instruments for which psychometric information is not yet available. They may be included in future editions of this compendium.

**The following measures have been reviewed by the developers:**

- ✓ *The Assessment Profile for Early Childhood Programs (APECP)*
- ✓ *The Assessment Profile for Family Childcare Homes (APFCCH)*
- ✓ *The Child Care Assessment Tool for Relatives (CCAT-R)*
- ✓ *Child Care HOME Inventories (CC-HOME)*
- ✓ *Child Development Program Evaluation Scale (CDPES)*
- ✓ *Child/Home Early Language & Literacy Observation (CHELLO)*
- ✓ *Child Caregiver Interaction Scale (CCIS)*
- ✓ *Caregiver (Adult) Interaction Scale (CIS)*
- ✓ *Classroom Assessment Scoring System (CLASS)*
- ✓ *Classroom Language and Literacy Environment Observation (CLEO)*
- ✓ *Child Observation Form and Scale (COFAS)*
- ✓ *Classroom Practices Inventory (CPI)*
- ✓ *The Emergent Academic Snapshot (EAS)*
- ✓ *Early Childhood Classroom Observation Measure (ECCOM)*
- ✓ *Early Childhood Environment Rating Scale Extension (ECERS-E)*
- ✓ *Early Language and Literacy Classroom Observation (ELLCO)*
- ✓ *Emlen Scales: A Packet of Scales for Measuring Quality of Child Care from a Parent's Point of View*
- ✓ *Early Literacy Observation Tool (E-LOT)*
- ✓ *Observation Measures of Language and Literacy Instruction (OMLIT)*
- ✓ *Observational Record of the Caregiving Environment (ORCE)*
- ✓ *Program Administration Scale (PAS)*
- ✓ *Preschool Classroom Implementation Rating Scale (PCI)*
- ✓ *Preschool Program Quality Assessment (PQA)*
- ✓ *Quality of Early Childhood Care Settings: Caregiver Rating Scale (QUEST)*
- ✓ *Ramey's Observation of the Learning Environment (ROLE)*
- ✓ *Ready School Assessment (RSA)*
- ✓ *Supports for Early Literacy Assessment (SELA)*
- ✓ *Supports for Social-Emotional Growth Assessment (SSEGA)*

## Cross - Cutting Comparisons



The profiles of individual measures provide information about the technical properties of each. However, we felt that it might be useful to include several tables highlighting the similarities and differences among the measures in several key areas. Our hope is that these tables will aid users of the compendium in comparing various features of the

measures. Our assessments about inclusion of measures in categories represented in the table were based on a review of the measures themselves, manuals, relevant websites, and empirical studies in which the measures were used.

## Figure 1: Target Age and Purpose

The measures in this compendium were designed for a variety of purposes including program improvement, monitoring/accreditation, and research/evaluation. Many of them were designed to serve more than one purpose. The measures were developed to assess quality in diverse settings including home-based and center-based programs. All of the measures assess quality in early childhood care and education settings, but vary in the range of ages for which each measure is customized.

	Program Target Age & Setting	Primary Purposes		
		Improvement	Monitoring/ Accreditation	Research/ Evaluation
	<i>Ages/Setting Served</i>			
<b>Assessment Profile for Early Childhood Programs (APECP)</b>	Infant, toddler, preschool and school-age programs	✓		✓
<b>Assessment of Practices in Early Elementary Classrooms (APEEC)</b>	K-3 general education classrooms		✓	✓
<b>Assessment Profile for Family Child Care Homes (APFCCH)</b>	Family child care homes	✓		✓
<b>The Child Care Assessment Tool for Relatives (CCAT-R)</b>	Family, friend, and neighbor care settings for children under age 6			✓
<b>Child Care Home Inventories (CC-HOME)</b>	Non-parental child care arrangements in home-like settings for children from infancy – age 6		✓	✓
<b>Child Caregiver Interaction Scale (CCIS)</b>	Children from infancy through school age in home and center based settings	✓	✓	✓
<b>Child-Caregiver Observation System (C-COS)</b>	1 to 5 year old children in all types of child care settings			✓
<b>Child Development Program Evaluation Scale (CDPES)</b>	Infant, toddler, preschool, and school-age child care settings		✓	✓
<b>Child/Home Early Language &amp; Literacy Observation (CHELLO)</b>	Mixed-age, home-based care settings	✓		✓

	<i>Ages/Setting Served</i>	<i>Improvement</i>	<i>Monitoring/ Accreditation</i>	<i>Research/ Evaluation</i>
<b>Caregiver (Adult) Interaction Scale (CIS)</b>	Early childhood classroom or family child care home			✓
<b>Classroom Assessment Scoring System (CLASS)</b>	Two versions of the CLASS are available: a preschool classroom version and a K-3 classroom version	✓		✓
<b>Classroom Language and Literacy Environment Observation (CLEO)</b>	Formal child care or Head Start settings serving children ages 3-5			✓
<b>Child Observation Form and Scale (COFAS)</b>	Infant-12 year-old classroom settings		✓	✓
<b>Classroom Practices Inventory (CPI)</b>	Early childhood programs for 4 and 5-year olds. This measure was adapted for use in kindergarten-primary programs		✓	✓
<b>The Emergent Academic Snapshot (EAS)</b>	Preschool – kindergarten aged children in child care, preschool, or kindergarten settings			✓
<b>Early Childhood Classroom Observation Measure (ECCOM)</b>	Classrooms serving children ages 4 - 7	✓		✓
<b>Early Childhood Environment Rating Scale Extension (ECERS-E)</b>	Early childhood classrooms serving 3 – 5 year olds	✓		✓
<b>Early Childhood Environment Rating Scale – Revised (ECERS-R)</b>	Early childhood classrooms serving 2 1/2 – 5 year olds	✓	✓	✓
<b>Early Language and Literacy Classroom Observation (ELLCO)</b>	Pre-K to 3 <sup>rd</sup> grade classrooms	✓		✓
<b>Early Literacy Observation Tool (E-LOT)</b>	Pre-K and Kindergarten classrooms (There is also a version for elementary classrooms)		✓	✓

	<i>Ages/Setting Served</i>	<i>Improvement</i>	<i>Monitoring/ Accreditation</i>	<i>Research/ Evaluation</i>
<b>Emlen Scales</b>	Children of all ages in any type of child care arrangement			✓
<b>Family Child Care Environment Rating Scale – Revised Edition (FCCRS-R)</b>	Family child care home settings serving children birth – elementary school		✓	✓
<b>Infant and Toddler Environment Rating Scale – Revised (ITERS-R)</b>	Classrooms serving infants from birth-30 months	✓		✓
<b>Observation Measures of Language and Literacy Instruction (OMLIT)</b>	Early childhood classrooms; The Snapshot and Read Aloud Profile has been used in family child care homes			✓
<b>Observational Record of the Caregiving Environment (ORCE)</b>	Primary child care settings – measures available at ages 6, 15, 24, 36, and 54 months			✓
<b>Program Administration Scale (PAS)</b>	Center-based or public school-based early care and education programs	✓	✓	✓
<b>Preschool Classroom Implementation Rating Scale (PCI)</b>	Preschool or kindergarten classrooms in public or private schools, day care centers, Head Start, or church programs serving children ages 3 -6		✓	✓
<b>Preschool Program Quality Assessment Instrument (PQA)</b>	All center-based preschool settings, regardless of whether center is using High Scope	✓	✓	✓
<b>Quality of Early Childhood Care Settings: Caregiver Rating Scale (QUEST)</b>	Variety of settings from informal care to formal center-based care of children 0 – 5 years of age			✓

	<i>Ages/Setting Served</i>	<i>Improvement</i>	<i>Monitoring/ Accreditation</i>	<i>Research/ Evaluation</i>
<b>Ramey's Observation of the Learning Environment (ROLE)</b>	Pre-K classrooms serving 3 and 4-year old children			✓
<b>Ready School Assessment (RSA)</b>	Elementary schools with an emphasis on pre-K – 2 classrooms	✓		
<b>School Age Care Environment Rating Scale (SACERS)</b>	School-aged care settings serving children ages 5 -12 years old	✓	✓	✓
<b>Supports for Early Literacy Assessment (SELA)</b>	Center-based preschool settings serving children ages 3-5			✓
<b>Supports for Social-Emotional Growth Assessment (SSEGA)</b>	Children ages 3-5 in center-based preschool settings			✓

The format for this table is from *Measuring Youth Program Quality: A Guide to Assessment Tools* (Yohalem and Wilson-Ahlstrom with Fischer and Shinn, 2007) and was used with permission from Nicole Yohalem. The content of this table is specific to *Quality in Early Childhood Care and Education Settings: A Compendium of Measures* (Halle & Vick, 2007) and was compiled by the authors.

## Figure 2: Methodology

Most of the measures included in this compendium are intended for external observers, although some of the tools may be used by center directors and teachers for program monitoring and improvement. Many developers stress the importance of training users before implementing the measures. Observation is the primary data collection method employed, although some instruments supplement the observations with interviews, questionnaires, and document review.

	Target Users		Data Collection Methods			
	<i>Program* Staff</i>	<i>External Observers</i>	<i>Observation</i>	<i>Interview</i>	<i>Questionnaire</i>	<i>Document Review</i>
<b>Assessment Profile for Early Childhood Programs (APECP)</b>	✓	✓	✓	✓		✓
<b>Assessment of Practices in Early Elementary Classrooms (APEEC)</b>		✓	✓	✓		
<b>Assessment Profile for Family Child Care Homes (APFCCH)</b>		✓	✓	✓		✓
<b>The Child Care Assessment Tool for Relatives (CCAT-R)</b>		✓	✓	✓		
<b>Child Care Home Inventories (CC-HOME)</b>		✓	✓			
<b>Child Caregiver Interaction Scale (CCIS)</b>		✓	✓			
<b>Child-Caregiver Observation System (C-COS)</b>		✓	✓			
<b>Child Development Program Evaluation Scale (CDPES)</b>	✓	✓	✓	✓		✓
<b>Child/Home Early Language &amp; Literacy Observation (CHELLO)</b>		✓	✓	✓		
<b>Caregiver (Adult) Interaction Scale (CIS)</b>		✓	✓			
<b>Classroom Assessment Scoring System (CLASS)</b>		✓	✓			
<b>Classroom Language and Literacy Environment Observation (CLEO)</b>		✓	✓			

	<i>Program Staff</i>	<i>External Observers</i>	<i>Observation</i>	<i>Interview</i>	<i>Questionnaire</i>	<i>Document Review</i>
<b>Child Observation Form and Scale (COFAS)</b>	✓	✓	✓			
<b>Classroom Practices Inventory (CPI)</b>		✓	✓			
<b>The Emergent Academic Snapshot (EAS)</b>		✓	✓			
<b>Early Childhood Classroom Observation Measure (ECCOM)</b>	✓	✓	✓			
<b>Early Childhood Environment Rating Scale Extension (ECERS-E)</b>	✓	✓	✓	✓		
<b>Early Childhood Environment Rating Scale – Revised (ECERS-R)</b>	✓	✓	✓	✓		
<b>Early Language and Literacy Classroom Observation (ELLCO)</b>	✓	✓	✓	✓	✓	
<b>Early Literacy Observation Tool (ELOT)</b>		✓	✓			
<b>Emlen Scales</b>	✓ (Parents)				✓	
<b>Family Child Care Environment Rating Scale – Revised Edition (FCCRS-R)</b>	✓	✓	✓	✓		
<b>Infant and Toddler Environment Rating Scale – Revised (ITERS-R)</b>	✓	✓	✓	✓		
<b>Observation Measures of Language and Literacy Instruction (OMLIT)</b>		✓	✓			
<b>Observational Record of the Caregiving Environment (ORCE)</b>		✓	✓			
<b>Program Administration Scale (PAS)</b>	✓	✓		✓		✓

	<i>Program Staff</i>	<i>External Observers</i>	<i>Observation</i>	<i>Interview</i>	<i>Questionnaire</i>	<i>Document Review</i>
<b>Preschool Classroom Implementation Rating Scale (PCI)</b>		✓	✓			
<b>Preschool Program Quality Assessment Instrument</b>	✓	✓	✓	✓		
<b>Quality of Early Childhood Care Settings: Caregiver Rating Scale (QUEST)</b>		✓	✓			
<b>Ramey's Observation of the Learning Environment (ROLE)</b>		✓	✓			
<b>Ready School Assessment (RSA)</b>	✓ (Parents, Principals)		✓		✓	✓
<b>School Age Care Environment Rating Scale (SACERS)</b>	✓	✓	✓	✓		
<b>Supports for Early Literacy Assessment (SELA)</b>		✓	✓	✓		
<b>Supports for Social-Emotional Growth Assessment (SEGA)</b>		✓	✓	✓		

\* Program staff refers to teachers, child care providers, and center directors. Other program staff are noted in parentheses.

The format for this table is from *Measuring Youth Program Quality: A Guide to Assessment Tools* (Yohalem and Wilson-Ahlstrom with Fischer and Shinn, 2007) and was used with permission from Nicole Yohalem. The content of this table is specific to *Quality in Early Childhood Care and Education Settings: A Compendium of Measures* (Halle and Vick, 2007) and was compiled by the authors.

**Figure 3: Technical Glossary**

	What is it?	Why is it useful?
<b>Score Distributions</b>	The dispersion or spread of scores from multiple assessments for a specific item or scale.	In order for items and scales (sets of items) to be useful, they should be able to distinguish differences between programs. If almost every program scores low on a particular scale, it may be that the items make it "too difficult" to obtain a high score and, as a result, don't distinguish between programs on this dimension very well.
<b>Inter-rater Reliability</b>	How much assessments by different trained raters agree when observing the same program at the same time	It is important to use instruments that yield reliable information regardless of the whims or personalities of individual observers. If findings depend largely on who is rating the program (rater A is more likely to give favorable scores than rater B), it is hard to get a sense of the program's actual strengths and weaknesses.
<b>Internal Consistency</b>	The cohesiveness of items forming an instrument's scales	Scales are sets of items within an instrument that jointly measure a particular concept. If, however, the items within a given scale are actually conceptually unrelated to each other, then the overall score for that scale may not be meaningful.
<b>Criterion Validity</b>	When a variable or set of variables predicts some measure of performance or criterion.	It is useful to know whether an instrument, particularly quality measures, predict performance measures (e.g., children's math or reading scores). Some researchers suggest that concurrent and predictive validity are types of criterion validity.
<b>Construct Validity</b>	When an instrument measures the construct that it is intended to measure.	It is helpful to know exactly which concepts an instrument is measuring. There is not a statistical test which measures construct validity, so the best method is to compare your measure to other measures of the same construct, or parts of the same construct.
<b>Concurrent Validity</b>	When an instrument compares favorably with a similar measure (preferably one with demonstrated validity strengths).	It is important to use an instrument that generates accurate information about what you are trying to measure. If two instruments are presumed to measure similar concepts, one would expect findings from each instrument to be similar.
<b>Discriminant Validity</b>	When an instrument correlates or varies inversely with an accepted measure of the opposite construct.	Like concurrent validity, discriminant validity allows you to determine whether your instrument measures the construct that it is purported to measure. If two instruments are presumed to measure opposite constructs, one would expect these measures to vary inversely.
<b>Predictive Validity</b>	When an instrument successfully predicts related outcomes.	The best way to know whether a quality assessment instrument generates accurate information about what you are trying to measure is to see whether programs that score high on quality actually produce better outcomes for the children participating in the program.
<b>Content Validity</b>	When an instrument can be generalized to the entire content of what is being measured.	It is important that a measure capture an entire construct rather than only parts, or pieces of the construct. Although there may be disagreement about what constitutes a construct, it is important that measures try to assess all aspects.

The format for this table is from *Measuring Youth Program Quality: A Guide to Assessment Tools* (Yohalem, Wilson-Ahlstrom with Fischer and Shinn, 2007) and was used with permission from Nicole Yohalem. In addition, we reproduce, with permission, the exact wording of definitions for the following terms from *Measuring Youth Program Quality: A Guide to Assessment Tools*: Score Distributions, Inter-rater Reliability, Concurrent Validity, and Predictive Validity. Definitions for the following terms were produced specifically for *Quality in Early Childhood Care and Education Settings: A Compendium of Measures* (Halle and Vick, 2007) by the authors: Criterion Validity, Construct Validity, Discriminant Validity, and Content Validity.

# Assessment Profile for Early Childhood Programs (APECP) Assessment Profile for Family Child Care Homes (APFCCH)

## I. Background Information

### Author/Source

#### Summative Measure:

- *Assessment Profile for Early Childhood Programs: Research Edition II*
- *Assessment Profile for Homes with Young Children: Research Version*
- *Assessment Profile for Early Childhood Programs: Research Edition Technical Manual*

#### *Publisher:*

Martha Abbott-Shim.  
294 Woodview Drive  
Decatur, GA 30030  
Email: [martha.abbottshim@gmail.com](mailto:martha.abbottshim@gmail.com)

#### Formative Measure:

- *Assessment Profile for Early Childhood Programs*
- *Assessment Profile for Family Child Care Homes*

#### *Publisher:*

Quality Assist, Inc.  
17 Executive Park Drive, Suite 150  
Atlanta, GA 30329  
Phone: 404-325-2225  
Website: [www.qassist.com](http://www.qassist.com)

### Purpose of Measure

**Summative Measure:** The *Assessment Profile for Early Childhood Programs: Research Edition II* is a global measure of quality used by researchers to evaluate the learning environment and teaching practices in classrooms for young children. The *Assessment Profile for Homes with Young Children: Research Version* was developed using items on the *Assessment Profile for Early Childhood Programs: Research Version*. The Family Child Care Homes version has only been used in the NICHD Early Childhood Research Project and the authors have never established any psychometric properties.

**Formative Measure:** The *Assessment Profile for Early Childhood Programs: Preschool, Toddler, Infant, School-Age, and Administration* instruments are formative evaluation measures used for program improvement purposes. These measures are more comprehensive than the summative, research tool and provide user-friendly procedures for self-evaluation of early childhood settings. As formative measures, they are supported by software that provides extensive analyses and detailed program improvement recommendations. The *Assessment Profile for Early Childhood Programs* tool evaluates center-based, classroom and administrative practices while the *Assessment Profile for Family Child Care Homes* is a companion tool for formative evaluation purposes in the family child care setting. From 1988 to 1999 the National

Association of Family Child Care Homes (NAFCC) had exclusive rights for use of this instrument in their accreditation process.

### **Population Measure Developed With**

The *Assessment Profile for Early Childhood Programs: Research Edition I* (1992) was originally standardized using 401 preschool classrooms in child care, Head Start, and kindergarten settings. In 1998 the authors revised the instrument using a national standardization sample of 2,820 classrooms: 190 Head Start classrooms in two southern states, and 933 kindergarten, 935 first grade and 762 second grade classrooms across 31 states and the Navajo Nation. Subsequent analyses across the original 87 items were conducted to confirm the factor structures, to estimate reliability, and to recalibrate the IRT properties. Following the analyses, each scale was reduced to 12 items and the *Assessment Profile: Research Edition II* was published in 1998. The psychometric properties are reported in the Technical Manual. The *Research Edition II* of the *Assessment Profile* has been used in a number of research studies; for more information contact Dr. Martha Abbott-Shim (Martha.abbottshim@gmail.com).

### **Age Range/Setting Intended For**

**Summative Measure:** The *Assessment Profile for Early Childhood Programs: Research Edition II* is an appropriate measure of classrooms for children 3-7 years of age.

**Formative Measure:** The *Assessment Profile for Early Childhood Programs* evaluates administrative practices as well as infant (birth-12 months), toddler (12-26 months), preschool (3-5 years) and school-age (5-10 years) classrooms. The *Assessment Profile for Family Child Care Homes* evaluates mixed-age groups and therefore includes infant through school-age children as well as the business and professional practices of the family child care provider.

### **Ways in which Measure Addresses Diversity**

Developmental diversity among children is addressed in both summative and formative measures through a series of criteria that focus on child assessment and individualizing instruction. In addition, the formative measure includes criteria under Curriculum Methods that address cultural diversity as the teacher incorporates a variety of language, customs and traditions (including food, music, art, stories, etc.) into the classroom environment and activities.

### **Key Constructs of Measure**

**Summative Measure:** The *Assessment Profile for Early Childhood Programs: Research Edition II* is an observation checklist with dichotomous items and includes five scales with 12 items each to assess Learning Environment, Scheduling, Curriculum Methods, Interacting, and Individualizing. These five scales have met the unidimensionality criteria for Information Response

Theory (IRT) creation of scales and have shown a strong fit to a three-parameter IRT model (Abbott-Shim, Neel, & Sibley, 2001).

**Formative Measure:** The *Assessment Profile for Early Childhood* evaluates the Safety (109 items), Learning Environment (73 items), Scheduling (34 items), Curriculum Methods (49 items), Interacting (61 items), and Individualizing (25 items) practices within classrooms. The number of items for each dimensions vary depending upon the age group observed; the maximum number of items are noted in parentheses. Administrative practices are evaluated in terms of Physical Facilities (68 items), Food Service (45 items), Program Management (63 items), Personnel (38 items), and Program Development (31 items).

The *Assessment Profile for Family Child Care Homes* evaluates Safety (51 items), Health and Nutrition (60 items), Learning Environment (41 items), Interacting (51 items), Outdoor Environment (25 items), and Professionalism (50 items).

The following Table provides a description of the constructs for each of these dimensions.

## ASSESSMENT PROFILE FOR EARLY CHILDHOOD PROGRAMS

### **SAFETY & HEALTH**

Safety and Health focuses on the maintenance of a healthy and safe classroom environment with specific attention to the handling of emergency situations, basic health care and medication needs. Diapering procedures will be assessed in the infant and toddler classrooms.

### **LEARNING ENVIRONMENT**

The Learning Environment focuses on the availability and accessibility of a variety of learning materials to children in the classroom. Variety is assessed across various conceptual areas (such as science, math, language, fine motor, etc.) and within in conceptual area. In addition, the arrangement of the classroom and outdoor space are assessed to determine if it encourages child independence and focused learning.

### **SCHEDULING**

Scheduling assesses the teachers' intentional planning as well as the implementation of classroom activities. Scheduling is assessed in terms of balance in variety of learning contexts (individual, small group, and large group) and learning opportunities (child-directed and teacher directed, quiet and active, indoor and outdoor experiences).

### **CURRICULUM METHODS**

Curriculum Methods focuses on the variety of teaching techniques and strategies used to facilitate children's learning. Curriculum Methods also examines the opportunities for emergent learning, for children to guide their own learning, and for cooperative learning experiences.

### **INTERACTING**

The interactions between the teacher(s) and children are observed to assess the child's experience with positive physical and verbal interactions, teachers' responsiveness, and approaches to behavior management.

### **INDIVIDUALIZING**

Individualizing assesses the teachers' implementation and use of systematic and comprehensive child assessment in planning and organizing learning experiences that match the skill level of each child. It also assesses the teachers' system for identifying and providing for children with special needs and the teachers' system for routine communication with parents.

## ASSESSMENT PROFILE FOR FAMILY CHILD CARE HOMES

### **SAFETY**

The provision of a safe environment is essential to the quality of the child's care and focuses on the general condition of the home with specific consideration to the play areas, bathroom, diapering area, kitchen, and sleeping areas. Also reviewed is the Provider's ability and preparedness to handle emergency situations, critical to ensuring the safety of children.

### **HEALTH AND NUTRITION**

The provision of basic health care and the encouragement of personal hygiene are two important aspects of high quality child care. Provision of basic health care includes the Provider's awareness of childhood illnesses, policies for handling illness, and a readiness to respond to health problems. Family child care Providers are responsible for providing nutritionally balanced foods, providing for individual differences, and encouraging sound nutritional habits while creating an atmosphere that encourages the development of social skills at mealtimes.

### **LEARNING ENVIRONMENT**

The arrangement of the family child care learning environment impacts the quality of the child's experience. The home should be arranged to promote child independence, foster the child's sense of belonging, and provide a variety of activities and opportunities that meet the varying developmental needs of the children in care.

### **INTERACTING**

The way in which the Provider interacts with the child influences the child's overall development and experience. Effective Providers have the ability to initiate warm and affectionate relationships with the children; facilitate learning; respond to children's needs; and effectively manage children's behavior.

### **OUTDOOR ENVIRONMENT**

The outdoor environment is viewed as an extension of the child's overall learning environment. Providers should maintain a safe and healthy outdoor environment and provide opportunities for a variety of play and learning activities.

## ASSESSMENT PROFILE FOR EARLY CHILDHOOD PROGRAMS

## ASSESSMENT PROFILE FOR FAMILY CHILD CARE HOMES

<b>ADMINISTRATION</b>	<b>PHYSICAL FACILITY</b> The Physical Facility dimension focuses on the safe and healthy conditions of the indoor and outdoor physical facilities with specific considerations to the toileting and hand washing facilities and vehicle safety.
	<b>FOOD SERVICE</b> The Food Service dimension assesses the administrator's responsibility for providing menus, which reflect a comprehensive food service and nutritionally balanced diet, which will meet the individual needs of the children. Also assessed are the food handling procedures and the food preparation area.
	<b>PROGRAM MANAGEMENT</b> Program management is a review of the comprehensive, descriptive documentation of policies and procedures for staff and parents. Specific consideration will be paid to medication policies and program record keeping.
	<b>PERSONNEL</b> The Personnel dimension focuses on the administrator's responsiveness and support for the staff. Assessed is the administrator's ability to facilitate staff cohesiveness and positive working relationships in a program staffed with qualified individuals.
	<b>PROGRAM DEVELOPMENT</b> Program development focuses on the professionalism of the program's administrator, the system of evaluation for the staff and program and the professional development opportunities available to the staff.

### PROFESSIONALISM

As a family child care professional, the Provider enters into a partnership with parents for the care and education of their children. It is the responsibility of the Provider to support this partnership through effective communication and clarification of policies and procedures. In addition, a high quality provider demonstrates commitment to ongoing personal and professional growth.

## II. Administration of Measure

### **Who Administers Measure/Training Required**

*Test Administration:* Data collection requires observation, review of records, and interview with teachers, administrator(s), and/or family child care provider(s).

*Training Required:* Training is required to establish inter-rater reliability. Training involves a review of the criteria and data collection methods and on-site practice observation, record review, and interviews. Training generally involves 2-3 days.

### **Setting**

Center-based preschool classrooms .....	<i>Assessment Profile for Childhood Programs: Research Edition II</i>
Center-based .....	<i>Assessment Profile for Early Childhood Programs</i>
Family Child Care Homes.....	<i>Assessment Profile for Family Child Care Homes</i>

### **Time Needed and Cost**

The time required to complete the *Assessment Profile* varies with each setting.

Center-Based Programs .....*2-3 classrooms can be evaluated in approximately one day and involves morning observations in classrooms, afternoon review of records and teacher interviews.*  
*For the formative evaluation tool only, the administrative component requires approximately 4-6 hours.*

Family Child Care Homes .....*approximately 4-6 hours*

**Summative Measure:** *Assessment Profile for Early Childhood Programs: Research Edition II:* \$18 (3 classrooms), Technical Manual: \$25

**Formative Measure:** *Assessment Profile for Early Childhood Programs and Assessment Profile for Family Child Care Homes* – pricing is based on the scope and specification of the evaluation plan regarding training, data collection, technology support (PDA), data analysis and reporting.

## III. Functioning of Measure

### **Reliability Information**

#### *Inter-rater Reliability*

For both the summative and formative versions of the *Assessment Profile*, inter-rater reliabilities between a trainer and observers is consistently reported with a mean of 93

to 95 percent agreement with a range of 83 to 99 percent agreement (Abbott-Shim, Lambert, & McCarty, 2000). Numerous other research studies have reported similar inter-rater reliabilities.

#### *Internal Consistency*

The reliability coefficients for the five scales (Learning Environment, Scheduling, Curriculum, Interacting, and Individualizing) range from .79 to .98 for the Kuder-Richardson 20 and from .81 to .98 for the Spearman-Brown corrected split-half. The IRT based reliabilities for the five scales range from .83 to .91 (Abbott-Shim, Neel & Sibley, 1992).

### **Validity Information**

#### *Criterion Validity*

Criterion related validity was established by examining the relationship of the *Assessment Profile: Research Edition I* to the *Early Childhood Environment Rating Scale* (ECERS) (Harms & Clifford, 1980). In these criterion related validity studies, Wilkes (1989) found a significant correlation ( $r = .64$ ,  $p < .001$ ), and Abbott-Shim (1991) found a significant correlation ( $r = .74$ ,  $p = .001$ ).

#### *Construct Validity*

A second-order factor analysis was used to determine whether the five scales of the *Assessment Profile: Research Edition II* form a single latent construct of classroom quality. The path coefficients for each of the Scales are reasonably similar between Year 1 and Year 2 (Learning Environment .41 and .37; Scheduling .31 and .34; Curriculum .69 and .59; Interacting .59 and .52; Individualizing .45 and .59). The goodness of fit indices for the two years are as follows: root mean square residual .034 (Yr. 1) and .038 (Yr. 2); goodness of fit .99 (Yr. 1) and .99 (Yr. 2); adjusted goodness of fit .95 (Yr. 1) and .96 (Yr. 2); and normed fit index .96 (Yr. 1) and .93 (Yr. 2). These results indicated that observed measurements using these factor scores stem from a single underlying construct of classroom quality (Abbott-Shim, Lambert, & McCarty, 2000).

#### *Content Validity*

Content validity was documented through a review of the instrument by a wide range of early childhood professionals and a cross-reference of the items with the initial NAEYC Accreditation Criteria (National Association for the Education of Young Children, 1998). The cross-reference showed extensive consistency between the two measures with 100% match of the criteria. This cross-reference has been periodically updated as the accreditation criteria have been modified (Abbott-Shim, Neel, Sibley, 2001).

### **References**

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- Wilkes, D. (1989). Administration, classroom program, sponsorship: Are these indices of quality care in day care centers. (Doctoral Dissertation, Georgia State University, 1989). *Dissertation Abstracts International* 50, AAI8922912.

# Assessment of Practices in Early Elementary Classrooms (APEEC)

## I. Background Information

### Author/Source

*Source:* Hemmeter, M. L., Maxwell, K. L., Ault M. J., & Schuster J. W. (2001). *Assessment of Practices in Early Elementary Classrooms (APEEC)*. Teachers College Press: New York, NY.

*Publisher:* Teachers College Press, 1234 Amsterdam Avenue, New York, NY 10027

### Purpose of Measure

*As described by the authors:*

“The National Association for the Education of Young Children (NAEYC) position statement on developmentally appropriate practices (DAP) applies to children birth-through eight years of age (Bredekamp & Copple, 1997). However, most existing measures of DAP. . .focus on children from birth through kindergarten. . .The *APEEC* was developed to provide a useful tool for both practitioners and researchers who want to understand elementary school practices (K-3) in general education classrooms serving children with and without disabilities. The *APEEC* does not measure specific curriculum content or in-depth teacher-child interactions” (Hemmeter, Maxwell, Ault, Schuster, 2001, p. 1).

### Population Measure Developed With

- 60 professionals were contacted to participated in the review process: 30 faculty members and 30 practitioners.
- 46 (77%) of professionals returned completed interviews: 25 (83%) practitioners, and 21 (70%) faculty members. As a result of feedback, the measure was reduced from 40 items to 22 items.
- Inter-rater agreement and validity data on the revised 22-item measure was collected in 38 K-3 classrooms in 1997. As a result of low inter-rater agreement, the measure was further reduced from 22 items to 16 items.
- The final 16-item measure was field-tested in 69 classrooms in North Carolina and Kentucky in the spring of 1998.

### Age Range/Setting Intended For

*As described by the authors:*

“The *APEEC* was designed to measure practices in K-3 general education classrooms that include children with disabilities for at least part of the day. However, it may also be used in classrooms with only typically developing children. Because the *APEEC* contains items measuring practices for children with disabilities, alternative scoring instructions are given for these items if no children with disabilities are served in the

classroom. The *APEEC* . . . does not measure aspects of the broader school environment, such as the playground or special subject classes” (Hemmeter et al., 2001, p. 3).

### **Ways in which Measure Addresses Diversity**

This measure was designed for use in classrooms serving children with and without disabilities for at least part of the day.

- Item 12 (Observation and interview): Rates the participation of children with disabilities in classroom activities, assessing the extent to which children with disabilities participate in many of the same classroom activities as children without disabilities and the extent to which IEP objectives are addressed through regular classroom activities.
  
- Item 14 (Observation and interview): Rates the degree to which materials and information on diversity are present in the classroom, and the extent to which diversity is discussed or integrated in the classroom and daily activities.

Diversity is defined broadly in this context to include gender, disability, family configurations and languages/cultures. Both of these items are included in the social context domain described below.

### **Key Constructs & Scoring of Measure**

The APEEC consists of 16 items covering three broad domains of classroom practices: physical environment, curriculum, and instruction. All items are rated on a seven-point, likert-type scale. “A score of ‘1’ indicates the classroom is *inadequate* in terms of developmentally appropriate practices, a score of ‘3’ indicates *minimal* developmentally appropriate practices, a score of ‘5’ indicates the classroom is *good* in terms of developmental appropriateness, and a score of ‘7’ indicates *excellent* developmentally appropriate practices. Intermediate scores of ‘2’, ‘4’, and ‘6’ can also be obtained” (Hemmeter et al., 2001, p. 4).

Descriptors are provided at points 1, 3, 5 and 7. Ratings are made using information collected both through classroom observation and teacher interview, with more weight placed on classroom observation.

- *Physical Environment* (4 items)
  - Room Arrangement
  - Display of Child Products
  - Classroom Accessibility
  - Health and Classroom Safety
- *Instructional Context* (6 items)
  - Use of Materials
  - Use of Computers
  - Monitoring Child Progress
  - Teacher-Child Language
  - Instructional Methods

- Integration and Breadth of Subjects
- *Social Context* (6 items)
  - Children’s Role in Decision Making
  - Participation of Children with Disabilities in Classroom Activities
  - Social Skills
  - Diversity
  - Appropriate Transitions
  - Family Involvement

## **II. Administration of Measure**

### **Who Administers Measure/Training Required**

*Test Administration:* The APEEC should be administered by individuals knowledgeable about developmentally appropriate practices, early elementary classrooms, and special education practices. Individuals are expected to familiarize themselves with the items and scoring procedures and to read over the administration instructions provided by the authors.

*Training Required:*

Information not available in materials reviewed.

### **Setting**

The APEEC measures practices in K-3 general education classrooms. Because of its focus on the classroom setting, the APEEC does not measure aspects of the broader school environment, such as the playground or special subject classes (e.g. physical education, music, art).

### **Time Needed and Cost**

*Time:* As this measure is based largely on classroom observations, the authors recommend observing as much of a full day’s in-class activities as possible. This is followed by a 20-30 minute interview with the teacher.

*Cost:* \$13.95 (paperback)

## **III. Functioning of Measure**

### **Reliability Information**

*Inter-rater Reliability:* Inter-rater agreement data were available for 59 classrooms. At the item level, the average percentage of agreement was 58% (range: 31% - 81%), and the average percentage of agreement within 1 point was 81% (range: 50% - 100%). The median weighted kappa was 0.59. Weighted kappas were 0.50 or higher for 12 items, and 2 items had a weighted kappa below 0.47.

*Internal Consistency:* The intraclass correlation (ICC) between the two observer’s ratings was 0.86.

### **Validity Information**

#### *Construct Validity*

Construct Validity was established by comparing the APEEC to several measures of developmentally appropriate practices. Correlations with each scale are presented below.

- The Assessment Profile for Early Childhood Programs (Abbott-Shim, & Sibley, 1988),  $r = 0.67$
- The Teacher Beliefs and Practices Scale (Buchanan, Burts, Bidner, White, & Charlesworth, 1998; Charlesworth, Hart, Burts, Thomasson, Mosley, & Fleege, 1993)
  - Developmentally appropriate practices,  $r = 0.55$
  - Developmentally inappropriate practices,  $r = -0.28$
- The Caregiver Interaction Scale (Arnett, 1989),  $r = 0.61$

### **References**

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## The Child Care Assessment Tool for Relatives (CCAT-R)

### I. Background Information

#### Author/Source

*Source:* Porter, T., Rice, R., & Rivera, E. (2006). *Assessing quality in family, friend and neighbor care: The child care assessment tool for relatives*. New York, NY: Institute for a Child Care Continuum.

*Publisher:* The instrument has not been published.

#### Purpose of Measure

*As described by the authors:*

This “observation instrument is specifically designed for measuring quality in child care provided by relatives” (Porter et al., 2006, p. i).

“The CCAT-R consists of five components: the Action/Communication Snapshot; the Summary Behavior Checklist; the Health and Safety Checklist; the Materials Checklist and the Caregiver Interview” (Porter et al., 2006, p. 9).

#### Population Measure Developed With

“The field test for the CCAT-R began in early 2004 (...) A total of 92 observations were completed with caregivers in low-income communities in California, Arizona, Chicago and New York City. Fifty-two percent of the caregivers were Latino, 26% European American, and 21% African American. The remainder self-identified as other ethnic groups. The vast majority of caregivers were women (96%), but there were four men. More than half (55%) were grandparents of the children in care, and slightly more than a third (36%) were aunts or uncles. Approximately 9% were related to the children in some other way, such as cousins. The majority of the caregivers (61%) were married or living with a significant other/ among those who were single heads of households, half were never married; the remainder were separated, divorced or widowed.

Although no questions about income were asked, it is likely that most of the caregivers had low incomes, because they were recruited in low income neighborhoods. Slightly more than half (58%) were paid for providing child care. Of the 53 caregivers who were paid, 31 received payment from the parent, 19 received payment from the government, and 3 received payment from both the government and parents. Approximately 70% of the caregivers who responded to the interview question about payment indicated that they could afford to provide care without it. Half of them said that parents gave them gifts or performed some service in exchange for the care.

The range of educational levels among participants was wide. Of those caregivers who reported this information, 40% had high school degrees or equivalent. Another 45% had some college, a two-year degree or a four-year degree. By contrast, approximately 15% of the caregivers had not completed high school.

There was also a wide range of child care experience. Approximately 44% of the caregivers had five or fewer years of experience providing child care for other people's children; 13% had been caring for children for a year or less. On the other hand, nearly 20% had been taking care of children for 20 years or more.

Caregiver's training in early childhood education varied, too. Slightly more than half (53%) of the caregivers had some sort of specialized training such as Child Development Associate classes, teacher training, nurse's training, child care workshops, parent education workshops, or some other type of training such as training for foster care. Nearly a quarter had taken classes in child development or early education at a college or university.

On average, caregivers provided care for two children; the range of children in care varied from one to seven. Approximately 40% of the arrangements consisted of one child; another 21% provided care for two children. Slightly more than a third of the children (38) were under three. Approximately 16% of the caregivers indicated that they were caring for children with special needs such as attention deficit hyperactivity disorder, learning delays, or asthma" (Porter et al., 2006, p. 15-16).

#### **Age Range/Setting Intended For**

The CCAT-R is used with children under age six in care provided by relatives.

#### **Ways in which Measure Addresses Diversity**

The sample in the field test included African American, Latino, and European American parents but the developers feel that it would be necessary to test the instrument with other cultural groups to get a sense of whether the "CCAT-R constructs and measures correspond to the views of quality held by parents" (Porter et al., 2006, p. 25) in other cultural groups.

#### **Key Constructs of Measure**

There are six constructs related to the caregiver's support for different developmental domains:

- *Support for physical development, including health and safety*
- *Support for cognitive development*
- *Support for language development*
- *Support for social/emotional development*
- *Behavior management*
- *Relationship with parents*

## II. Administration of Measure

### **Who Administers Measure/Training Required**

*Test Administration:* The test can be administered by individuals with early childhood, parent education, or family support training. No specific educational level beyond high school is required. Test administrators must be able to speak and read English, because the CCAT-R is not available in other languages at this time.

*Training Required:* Two-day training is offered through The Institute for a Child Care Continuum at Bank Street College of Education.

### **Setting**

The CCAT-R is used in the setting where the relative provides the care for the child (either the relative's home or the child's home). Since its development, the CCAT-R has successfully been used in group settings for family, friend and neighbor caregivers as well (Porter, Tutu Me Final Report, unpublished.)

### **Time Needed and Cost**

*Time:* Observation: 2 – 2 ½ hours  
Interview: 30 minutes

*Cost:* The cost for the training depends on the number of trainers needed. Cost per trainer is \$1700. The training includes the instrument, the manual and a training DVD.

The CCAT-R can be downloaded from the following website:  
<http://www.bankstreet.edu/gems/ICCC/CCATRfinal5.8.06.pdf>

## III. Functioning of Measure

### **Reliability Information**

#### *Inter-rater Reliability*

“Observers were trained to a criterion of .80 exact agreement on individual items in the CCAT-R Action/Communication Snapshot and the Summary Behavior Checklist in a minimum of 4 of the 6 observation cycles. Inter-rater reliability was obtained through comparison of observers' coding with the master-coded videotaped practice observation and two live observations with a reliable observer before observers used the CCAT-R in the field” (Porter et al., 2006, p. 16).

### **Validity Information**

#### *Criterion Validity*

“It is possible that the CCAT-R has criterion validity as well because the items are grounded in child development theory and research and, as a result, may be predictive of positive child outcomes” (Porter et al., 2006, p. 16-17).

*Construct Validity*

“Initial confirmatory factor analysis indicated that there were too few cases of several items – toileting, for example – for statistically useful variation, and these items were eliminated. Subsequent analyses indicated that there were not enough unique items in behavior management to support it as a construct. We eliminated it from scoring, but retained the Behavior Checklist items in the coding for future research.

Additional confirmatory factor analysis using a maximum likelihood fit test with both promax and oblimin rotations produced five factors that seemed feasible. To check for consistency, we ran the generalized least squares fit function with promax rotation. Although the two solutions differed in several ways, there was satisfactory substantive correspondence in the first four factors to justify their use. . .

Some items, particularly those related to nurturing such as kissing, holding and patting, loaded on more than one factor, specifically the language factors. This may reflect the caregiver’s interactions with infants and toddlers, because caregivers may hold babies as they talk to them. In addition, some of the caregiver talk items load on both language factors. The primary difference between these factors is that the child responds to the caregiver’s talk in bidirectional communication, in the unidirectional use of language. In other words, the former measures caregiver talk with the child, while the latter measures caregiver talk to the child” (Porter et al., 2006, p. 16-17).

*Concurrent Validity*

The field test did not include a formal concurrent validity component, but it did compare four items from the Family Day Care Rating Scale (FDCRS) with the four CCAT-R factors. With the exception of the FDCRS item, “Tone,” scores were similar—that is, the median FDCRS score corresponded to the CCAT-R rating (Porter et al., 2006, p. 21).

*Convergent & Discriminant Validity*

The instrument has not been tested for these properties at this time.

*Predictive Validity*

There have been no tests for predictive validity at this time.

*Content Validity*

“The content validity is based on participation of child care researchers throughout the CCAT-R’s development. A group of researchers reviewed the constructs that informed the individual items in the CCAT-R, and several reviewed the full CCAT-R before the pilot test. In addition, [the developers] discussed the constructs and the CCAT-R items with practitioners at national conferences to identify whether the measure reflected caregiver behaviors with which they had experience” (Porter et al., 2006, p. 16).

**Comments**

Since its development, the CCAT-R has been used in several assessments of child care quality. They include the Early Head Start Enhanced Home Visiting Pilot Evaluation (Pausell, Mekos, Del Grasso, Rowand, & Banghart, 2006); and two small evaluations of state funded-CCDF initiatives for family, friend and neighbor caregivers in Alabama and New Mexico (Porter, 2005). It is currently being used with a sample of 82 caregivers, many of whom are Native Hawaiian, in a family interaction program in Hawaii. Additional evaluations in Los Angeles, CA and San Jose, CA will include it as well.

**References**

- Pausell, D., Mekos, D., Del Grasso, P., Rowand, C., & Banghart, P. (2006). *Strategies for supporting quality in kith and kin child care: Findings from the Early Head Start Enhanced Home Visiting Pilot Program evaluation Final report*. Princeton, NJ: Mathematica Policy Research, Inc.
- Porter, T. (2005). *Evaluating quality in family, friend and neighbor child care: Results from two case studies*. Presentation at the National Association of Child Care Resource and Referral Agencies Annual Conference, Washington, DC.

## The Child Care HOME Inventories (CC-HOME)

### I. Background Information

#### Author/Source

*Source:* Bradley, R. H., Caldwell, B. M., & Corwyn, R. F. (2003). The Child Care HOME Inventories: Assessing the quality of family child care homes. *Early Childhood Research Quarterly, 18*, 294-309.

*Adapted by:* Maxwell & Kraus (2002). Child Care Home Inventory-Phone. FPG Child Development Institute, UNC-CH.

*Publisher:* Available online  
[www.fpg.unc.edu](http://www.fpg.unc.edu)

#### Purpose of Measure

*As described by the authors:*

“The Child Care HOME Inventory (CC-HOME) was designed to measure the quality and quantity of stimulation and support available to a child in non-parental child care arrangements taking place in home-like settings other than the child’s own home” (Bradley et al., 2003, p. 297).

The CC-HOME encompasses two measures: the Infant-Toddler Child Care HOME (IT-CC-HOME) and the Early Childhood-Child Care HOME (EC-CC-HOME).

Many of the existing measures that assess quality of care in family child care homes (e.g., FDCRS, ITERS, PROFILE, CIS, AIS, and ORCE) “have acceptable to good psychometric qualities, but most require quite extensive periods of observation and some require substantial training to use. Some, like the FDCRS and the PROFILE, focus primarily on the physical, instructional, and organizational features of the child care arrangements, whereas others (e.g., ORCE, the Arnett, AIS) concentrate primarily on interactions between caregiver and child” (Bradley et al., 2003, p. 295). “There is a need for valid, reasonably comprehensive measures of the quality of care individual children receive in family child care settings that can be given in a relatively brief visit to the informal care environment. That is the niche CC-HOMEs are designed to fill” (Bradley et al., 2003, p. 296).

The instrument was developed as part of the NICHD Study of Early Child Care (NICHD Early Child Care Research Network, 1996). The CC-HOME is suitable for research and evaluation purposes. The CC-HOME is also relevant for public policy purposes, as this tool may help licensing workers and others responsible for maintaining quality in child care to obtain useful information about family child care homes.

**Population Measure Developed With**

- 75% of the caregivers in home-like settings (other than care provided by relatives) agreed to participate in observations of the child care environment in the NICHD Study of Early Child Care.
- Those agreeing to participate were more likely to be of higher education and less likely to be African American.
- The IT-CC-HOME was used with in-home caregivers of 377 24-month-old children.
- The EC-CC-HOME was used with 274 caregivers of 3-year-olds.
- The children observed were primarily European American (88%), in nuclear families (approximately 70%) whose fathers lived with them (approximately 80%). About 10% of the child sample received public assistance.

**Age Range/Setting Intended For**

The Child Care HOME Inventory (CC-HOME) encompasses two measures: the Infant-Toddler Child Care HOME (IT-CC-HOME) designed for use when children are less than 3 years old, and the Early Childhood-Child Care Home (EC-CC-HOME) designed for use when children are 3-6 years old.

Settings appropriate for the CC-HOME include care by relatives and neighbors (outside of the child's home) as well as care in licensed and unlicensed family child care homes.

**Ways in which Measure Addresses Diversity**

According to the author, "The CC-HOME was designed so that it could be used with a wide variety of families. The parent instrument on which the CC-HOME was modeled has been used in . . . studies involving every major ethnic group in the U.S. and scores on the HOME generally correlate with measures of family and child functioning. The correlations do tend to be a little stronger for European American families than for other ethnic groups but meaningful correlations tend to be obtained within most every group" (personal communication with the developer, September 18, 2007).

**Key Constructs of Measure**

The IT-CC-HOME is composed of 43 binary-choice items organized into six subscales:

- *Caregiver Responsivity* (11 items)
- *Acceptance* (7 items)
- *Organization* (6 items)
- *Learning Materials* (9 items)
- *Caregiver Involvement* (6 items)
- *Variety of Stimulation* (4 items)

The EC-CC-HOME is composed of 58 items organized into eight subscales:

- *Learning Materials* (11 items)
- *Language Stimulation* (7 items)
- *Physical Environment* (7 items)
- *Caregiver Responsivity* (8 items)
- *Academic Stimulation* (5 items)
- *Modeling of Social Maturity* (7 items)
- *Variety in Experience* (9 items)
- *Acceptance of Child* (4 items)

“There is considerable overlap in the content of the Infant/Toddler and Early Childhood version but the content of each version is targeted to the developmental needs of children within the age ranges specified” (Bradley et al., 2003, p. 299).

### **Comments**

The IT-CC-HOME and EC-CC-HOME inventories are very similar to versions of the HOME (Home Observation of the Measurement of the Environment) Inventory used to assess the family environment (Caldwell & Bradley, 2003). There is over 90% overlap between CC-HOME and the original HOME for each age period. Minor modifications were made to the HOME inventories to make them appropriate for evaluating family child care environments. Specifically, the IT-CC-HOME contains 43 items, rather than the 45 items in the Infant/Toddler HOME. The EC-CC-HOME contains 58 items rather than the 55 in the Early Childhood HOME. “This close modeling results in nearly equivalent measures of environmental quality for family child care and the home environment for studies where measuring both environments is deemed desirable” (Bradley et al., 2003, p. 297).

The CC-HOME does not provide as intensive a level of coverage of caregiver-child interactions as do other measures (e.g., ORCE, Arnett, and the AIS), nor does it capture aspects of either the social or the physical environment in as much detail as the PROFILE and the FDCRS. The CC-HOMEs do not attempt to directly assess formal curricula. Instead of providing a deep or intensive coverage of any aspect of care, it provides broad coverage of the structural, organizational, and educational features of the caregiving environment.

## **II. Administration of Measure**

### **Who Administers Measure/Training Required**

#### *Test Administration:*

Trained observers conduct the observations. For the NICHD Study of Early Child Care, about ½ day of training was required, followed by practice with the instrument, and achieving 90% reliability with criterion coding of videotaped child care settings.

*Training Required:* The authors note that it is “not generally necessary to have such intensive training in order to achieve reliability on the CC-HOME” (Bradley et al., 2003, p. 300).

**Setting**

Observations are made in family child care homes.

**Time Needed and Cost**

*Time:* The CC-HOME takes about one hour of observation in the home-like child care setting.

*Cost:* Manual      \$30.00  
50 Forms      \$25.00

**III.    Functioning of Measure**

**Reliability Information**

*Inter-rater Reliability*

Paired observers went to each child care setting at each time point in the NICHD Study of Early Child Care. Each member of the pair scored each item on the CC-HOME independently, and their scores were compared using Pearson correlations and repeated measures ANOVA procedure developed by Winer (1971).

At the 24-month data collection, 53 pairs of scores were examined. Pearson correlations ( $r = .94$ ) and the Winer correlation ( $r = .97$ ) were both very high.

At the 54-month data collection, 23 pairs of observations revealed very high reliability using both Pearson correlations ( $r = .98$ ) and the Winer correlation ( $r = .99$ ). “Although these estimates of inter-observer agreement are quite high, they are consistent with a review of studies on the original HOME Inventories done by Bradley (1994) which showed that simple levels of agreement are typically in the 90-95% range” (Bradley et al., 2003, p. 301).

*Internal Consistency*

The 45 items on the IT-CC-HOME has a Cronbach’s alpha of .81 (NICHD Early Child Care Research Network, 1996).

**Validity Information**

*Criterion Validity*

Criterion validity of the HOME is well-established. Studies have linked HOME scores to various aspects of child well-being, suggesting that it is related to cognitive, motor, and social outcomes as well as to growth and health (Bradley, 1994; Bradley, Corwyn, & Whiteside-Mansell, 1996). “Establishing the criterion validity of the CC-HOMEs per se is more difficult in that the quality of the home environment typically accounts for far more variance in child well-being than does the quality of child care environments (NICHD Early Child Care Research Network, 2003)” (Bradley et al., 2003, p. 305).

*Construct Validity*

The CC-HOME was designed after the version of the HOME created to measure family environments, which was based on a review of child development and family theory, as well as empirical research on actions, objects, events, and conditions that are associated with aspects of child well-being (personal communication with the developer, September 18, 2007).

*Concurrent & Discriminant Validity*

Scores on the CC-HOME show moderate relations with the sensitivity and stimulation composites from the Observation Record of the Caregiving Environment (ORCE) used in the NICHD Study of Early Child Care (.46 - .58). and the Abbot-Shimm Assessment Profile for Early (.57 - .69).

*Convergent validity*

Scores on the CC-HOME were correlated with scores on the ORCE and PROFILE for the NICHD Study of Early Child Care sample.

Subscale scores from the IT-CC-HOME were significantly correlated with the caregiver sensitivity and cognitive stimulation composite variables from the ORCE (correlations ranged from  $r = .15$  to  $r = .61$ ). Caregiver Responsivity and Caregiver Involvement showed high correlations with the Sensitivity composite of the ORCE ( $r = .61$  and  $.59$ , respectively); the Caregiver Involvement also showed moderate relations with the Stimulation composite ( $r = .44$ ).

Subscale scores from the EC-CC-HOME also had significant correlations with the ORCE Sensitivity and Stimulation composites (correlations ranged from  $r = .18$  to  $r = .55$ ). Caregiver Responsivity was highly correlated with the ORCE Sensitivity composite ( $r = .55$ ). Moderate correlations were found between Learning Materials, Academic Stimulation, and Variety of Experience on the one hand and the ORCE Stimulation composite on the other ( $r = .35$ ,  $.35$ , and  $.37$ , respectively).

The CC-HOME was also significantly correlated with the PROFILE at both time points (correlations ranged from  $r = .21$  to  $r = .69$ ). For the IT-CC-HOME, the two strongest correlations were for Learning Stimulation ( $r = .51$ ) and Caregiver Involvement ( $r = .62$ ). For the EC-CC-HOME, the strongest correlations were for Variety of Stimulation ( $r = .53$ ), Learning Materials ( $r = .47$ ) and Language Stimulation ( $r = .45$ ).

*Content Validity*

Extensive and careful review of the literature has undergirded the development of both the HOME and the CC-HOME. “The content validity of the CC-HOME rests on the strength of those reviews together with consultations with professionals who deal with children and families” (Bradley et al., 2003, p. 305).

**References**

- Bradley, R. H. (1994). The HOME Inventory: Review and reflections. In H. W. Reese (Ed.), *Advances in child development and behavior* (Vol. 25, pp. 241-288). Orlando, FL: Academic Press.
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## Child Caregiver Interaction Scale (CCIS)

### I. Background Information

#### Author/Source

*Source:* Carl, B., Dissertation for Indiana University of Pennsylvania, 2007

*Publisher:* Not yet published.  
For more information, contact author by email at  
[B.E.Carl@iup.edu](mailto:B.E.Carl@iup.edu).

#### Purpose of Measure

*As described by the authors:*

The original starting point for this measure was the Caregiver Interaction Scale (CIS) (Arnett, 1989). The CIS is used frequently and widely as a process indicator of child care quality. While the CIS is widely used in child care research, the scale has strong limitations. The lack of operationally defined terms, limited variability, current research in early care and education, and study specific adaptations of the measure facilitated the necessity to create a new, research based, scientifically sound scale of child care interaction.

Both research and technical assistance require an instrument with greater ability to assess the areas of caregiver strength and weakness. For researching characteristics critical for quality child care, a more sensitive measure will enable us to learn more about the attributes associated with caregiver/child interaction. From a technical assistance perspective a more sensitive measure will allow for greater identification of targeted interventions and behavioral considerations. Helping caregivers understand their strengths and areas of improvement can help assess practice.

A review of established child care interaction measures revealed that no one assessment device exists for measuring the interaction between a child care provider and children in multiple age groupings and settings, ranging from infancy through school age and including family child care homes. Most caregiver interaction scales remain limited to specific age groupings and therefore do not cover the age spectrum found in most child care facilities. Given the National and State level focus on child care quality improvement, a need exists for an instrument that can monitor, evaluate, and assess the quality of child caregiver interactions at multiple age groupings and settings, ranging from infancy through school age, as well as family child care settings.

The CCIS is a valuable and much needed measurement tool to assess child caregiver interaction across age groupings and settings. This measure not only provides a scale that can be used for research purposes to compare child care quality, but also serves as a noteworthy tool for training and technical assistance. By helping child caregivers

understand their strengths and areas most in need for improvement, the CCIS is a tool that can be used to improve quality child care.

**Population Measure Developed With**

Original items were developed by the author and based on the National Association for the Education of Young Children’s (NAEYC) Developmentally Appropriate Practice (DAP). Each of the items and indicators were reviewed by ten early childhood professionals. Reviewers were asked to evaluate the clarity and conciseness of each item and indicator, and to identify awkward or confusing items.

Data collection for the pilot study was conducted in conjunction with the 2006 Keystone STARS Quality Study, administered through the Office of Child Development (OCD), Pennsylvania Department of Public Welfare. The data collectors gathering the pilot CCIS data simultaneously collected Environmental Rating Scale data for the Quality Study. Additional data were collected from child care providers who participated in training programs, including Mind in the Making (social/emotional training for the care provider) and Child Development Credential (targeted child education) Programs. The sampling frame for this study consisted of 223 child care providers throughout the Commonwealth. Data were collected on infant/toddler, preschool, school age, and family child care settings.

Analysis of study participants for the pilot study and those of the larger 2006 Keystone STARS Quality Study reveal a similar sampling pattern. Family child care homes comprise 40.2% of the CCIS study, compared to 37.7% of the Keystone STARS Quality Study. Preschool aged programs in the CCIS study constitute 59.8% of the sample, versus 62.2% of the larger study. Further, exploring the STAR level of participants in each study revealed a similar sampling pattern between high and low STAR levels. These results indicate participants in the pilot study comprise a reasonably representative sample of the larger Keystone STARS Quality Study and also of the total child care facilities population in Pennsylvania. Additionally, the pilot study also includes other specific groups (infant/toddler care and school aged care) that are not included in the larger 2006 study.

**Age Range/Setting Intended For**

The measure is designed to assess interactions between caregivers and children in multiple age grouping, ranging from infancy through school age. The assessment takes place in both home and center based child care settings.

**Ways in which Measure Addresses Diversity**

Two items measure diversity in the classroom and are part of the *Social domain* (described below).

- “Engaging children with special needs”: Rates the extent to which children with special needs are included in the group, the extent to which adaptations are made within the classroom to facilitate/enable children with disabilities to participate in classroom activities, how comfortable caregivers are interacting with and caring

for children with special needs, and the extent to which caregivers are included as part of the IFSP/IEP.

- “Cultural competence”: Rates the extent to which daily routines and classroom materials represent different races, cultures, ages, abilities and genders in non-stereotyping roles, and the extent to which staff intervene to counteract prejudice and promote understanding and acceptance of diversity.

### **Key Constructs of Measure**

The CCIS consists of 17-items, covering three domains: *Emotional, Cognitive/Physical, and Social*. Each item is assessed on a seven point scale ranging from 1 (inadequate) to 7 (excellent). Several indicators are available at anchor points 1, 3, 5 and 7.

- *Emotional domain* (6 items): tone of voice, acceptance/respect for children, greeting, enjoys and appreciates children, and expectations for children, health and safety.
- *Cognitive/Physical domain* (7 items): routines/time spent, physical attention, discipline, language development, learning opportunities, involvement with children’s activities, symbolic and literacy materials
- *Social domain* (4 items): promotion of prosocial behavior/ social emotional learning, engaging children with special needs, relationships with families, cultural competence.

## **II. Administration of Measure**

### **Who Administers Measure/Training Required**

*Test Administration:* While the CCIS demonstrates a robust nature that can accommodate some variability of data collection, researchers and practitioners alike must be aware that solid training of the instrument is necessary for the collection of accurate data. Because of the strong link with DAP, when properly administered and interpreted, this scale can be tremendously beneficial in helping caregivers identify their areas of strength, as well as improvement. The measure should be administered by a reliably trained, objective assessor.

*Training Required:* Training consists of a one day review of the scale, reviewing each item and indicator. A minimum of two follow up reliability observations are recommended to ensure accurate interpretation of the measure.

### **Setting**

The CCIS can be administered with infant, toddler, preschool, and school-aged after school caregivers, in both center- and home-based child care settings.

### **Time Needed and Cost**

*Time:* It is recommended that a three hour block of time be used for the administration of this scale. Administration of this scale can be conducted simultaneously with the age/setting appropriate ERS.

*Cost:* Contact the author for training and use of the scale at B.E.Carl@iup.edu.

### **III. Functioning of Measure**

#### **Reliability Information**

##### *Inter-rater Reliability*

Inter-rater reliability was established between the author and two other observers prior to the start of data collection. Initial reliability proved a high percentage of agreement by each observer on each item within one point on the seven-point scale (95%). No items were off by more than one score point. Reliability was assessed independently with each of the two observers through the course of the study. A high level of inter-rater reliability was maintained by each of the observers, demonstrating an Inter Class Correlation (ICC) ranging from .88 to .93, with each item within one point on the seven-point scale.

Due to incomplete data collection the original set of 17 items was decreased to 15. Item #3, "Greeting," was omitted because of incomplete data. Item #15, "Engaging With Special Needs Children," was also omitted because of the low number of cases ( $n = 24$ ) where a special needs child was enrolled in the program. Information presented is based upon the adjusted pilot sample of 181.

##### *Internal Consistency*

Cronbach's alpha was conducted to determine the internal consistency estimate of reliability for the Child Caregiver Interaction Scale. Cronbach's alpha for the CCIS measure, across all age groups and settings was extremely high, at .94. Cronbach's alpha for preschool age caregivers was .95, for infant/toddler caregivers was .91, for home based caregivers was .93, and for school-aged caregivers was .95. These coefficients indicate strong utility of the CCIS measure across these settings and age groupings of child care.

Analyses of the theoretically derived subscales of emotional, cognitive and social each revealed a moderately high Cronbach's Alpha with relatively high corrected item-total correlations. Considering the unequal number of items in each domain, these results are not surprising. The Emotional subscale was comprised of 5 items ( $\alpha = .87$ ), the Cognitive subscale consisted of 7 items ( $\alpha = .88$ ), and the Social subscale consisted of only three items ( $\alpha = .72$ ). Based upon child care research, which stresses the importance and relevancy of these subscales, and given that the Cronbach's Alpha coefficients reveal moderately high internal consistency, the subscales appear to be reliable measures. Although the specific subscale coefficients should be considered when interpreting subscale results, the results suggest that evaluators and researchers can use the entire scale and/or each subscale separately.

Each of the subscales and the CCIS overall scores followed bell-shaped distributions thereby providing support that the CCIS does a good job of measuring the full spectrum of observed caregiver interactions under assessment. The results from the CCIS demonstrated measurement variability, which is a noteworthy improvement over the polarized CIS.

### **Validity Information**

#### *Concurrent Validity*

Concurrent validity was explored by correlating the CCIS average and the age/setting appropriate overall Environmental Rating Scale (ERS) average, which were collected at the same time. This correlation was chosen because each of the ERS scales have been established as reliable and valid measures of quality in the early childhood field. The correlation between the CCIS and the overall ERS ratings average was significant (.74,  $p < .001$ ).

#### *Convergent & Discriminant Validity*

Convergent validity was assessed by exploring the correlation between the CCIS average and the “Interaction” subscales of the age/setting appropriate ERS. This subscale was chosen for comparison because of its theoretical association with the CCIS in terms of caregiver interaction, versus a purer measure of the physical environment.

Discriminant validity was explored by assessing the correlation between the CCIS average and the “Space and Furnishings” subscale of the age/setting appropriate ERS. This was chosen for analysis because the “Space and Furnishings” subscale provides a stronger focus on the classroom environment versus that of the caregiver interaction.

The correlation between the CCIS and the “Interactions” subscale of the ERS scale was also significant, (.75,  $p < .001$ ). Again, this indicates a moderate to strong positive linear relationship between the two assessment scales. However, while the correlation between the CCIS and the “Space and Furnishings” subscale of the ERS was significant, it was also lower than the other two correlations (.67,  $p < .001$ ).

These results were expected. Good caregivers provide for a safe and healthy environment and a positive relationship with the CCIS was therefore anticipated. Similarly, both the ERS and the CCIS contain specific health and safety related measurement items also yielding an expected positive relationship. The ERS “Space and Furnishings” subscale, however, focuses more on the physical environment than the caregiver environment and a lower correlation was expected. While good caregivers operate to ensure a good physical environment, as measured by the ERS “Space and Furnishings” subscale, the CCIS more specifically measures the caregiver interaction.

### *Predictive Validity*

Clearly, child caregiver interactions are affected by a variety of factors. For purposes of this analysis, the factors of education, STAR level (quality enhancement rating), years of experience in child care, and the adult/child relationship were explored using multiple regression. The multiple regression analysis revealed the linear combination of caregiver characteristics were significantly related to the CCIS score,  $F(4, 146) = 4.85, p < .001$ . Analysis revealed a statistically significant relationship between the education of the provider and the CCIS score irrespective of the other variables. It also indicates that after controlling for the other variables a statistically significant relationship exists between the STAR level of the child care facility and the CCIS score.

### *Content Validity*

The CCIS is based upon the solid theoretical base of DAP and is structured to incorporate these principles. To ensure consistency between DAP and the CCIS, many item indicators of the CCIS include specific examples drawn from DAP. Further, the training materials for data collectors are directly drawn from DAP. This attention to coordination between the DAP and data collection documents ensured the CCIS was built upon both research and theory, and ensured strong content validity.

### **Comments**

Care should also be taken in the interpretation of the results of the CCIS. Feedback results on individual item responses are not advised. Because each of the items is combined with others to create a subscale for the cognitive, emotional and social domains, it is recommended that the lowest level of feedback provided to caregivers be on the domain level.

Practitioners also need to be clear on how each of the subscales combines to create an overall caregiver interaction score. Because of the interconnected nature of these domains, research from this study indicate that caregivers who scored high on one subscale also tended to score high on the others. Using the CCIS to help caregivers identify and target desired behavior can be a useful tool in increasing the quality of child caregiver interactions.

# The Child-Caregiver Observation System (C-COS)

## I. Background Information

### Author/Source

*Source:* Boller, K., & Sprachman, S. (1998). *The Child-Caregiver Observation System Instructor's Manual*. Mathematica Policy Research, Inc: Princeton, NJ

*Publisher:* Mathematica Policy Research, Inc.  
P.O. Box 2393  
Princeton, NJ 08543-2393  
(609) 799-3535  
Fax: (609) 799-0005  
Website: <http://www.mathematica-mpr.com/>

### Purpose of Measure

*As described by the authors:*

“C-COS is a child-focused observation system that captures the experiences of an individual child in a caregiving environment over a two-hour period using a time-sampling procedure” (Boller & Sprachman, 1998, p. 1).

### Population Measure Developed With

“Developed for the Early Head Start National Evaluation (EHS) and the Tracking Pre-K Evaluation (TPK). The EHS and TPK follow-up was implemented in 17 EHS programs in all regions of the country. Programs offered center-based, home-based, and mixed-approach services. The families and children who participated in the evaluation were diverse. Many of the families were single-parent, were ethnically diverse (including Hispanic, African American, and White), did not speak English as their primary language, had relatively low educational attainment, and were receiving public assistance of some kind (e.g., Medicaid, WIC, food stamps, AFDC or TANF, and SSI benefits). A total of 3,001 families participated in the evaluation, with 1,513 in the treatment group and 1,488 in the control group.”

([http://www.acf.hhs.gov/programs/opre//other\\_resrch/eval\\_data/reports/common\\_constructs/com\\_ch3\\_pro\\_hseval.html](http://www.acf.hhs.gov/programs/opre//other_resrch/eval_data/reports/common_constructs/com_ch3_pro_hseval.html))

### Age Range/Setting Intended For

The C-COS is used with 1-to 5-year-olds in all types of child care settings.

### Ways in which Measure Addresses Diversity

Information not available from materials reviewed.

**Key Constructs & Scoring of Measure**

“The C-COS is conducted during a two-hour child care observation. Every 20 minutes, the observer begins a child-focused observation that lasts 5 minutes, during which the observer is prompted by an audiotape to observe the child for 20 seconds and record the codes on the coding sheet for 10 seconds” (Boller & Sprachman, 1998, p. 1).

- “focus child” (FC) designates the child whose interactions and activities will be observed
- “direct provider of care” (DP) describes the caregiver with primary responsibility for focus child throughout the day

“There are eight coding categories in the C-COS. The first five, labeled A through E on the C-COS form, are filled in during the 10-second record periods that occur throughout each five-minute child-focused observation.

A. Type of Caregiver Talk

- Responds to Focus Child (FC) talk
- Language or Communication Requested
- Action Requested
- Reading
- Other Talk/Singing

B. FC Talks to...

- Self or Unknown
- Other Children
- Direct Provider
- Other caregivers

C. FC Interaction With or Attending to...

- Other Child(ren) or Group
- Caregiver
- Material (Played with or explored)
- Television or Video
- None: Wandering/Unoccupied

D. FC was...

- Smiling

E. The Main Caregiver Interaction or Attempting to Interact with FC was...

“The overall quality ratings, F through H, are completed at the end of the five-minute observation” (Boller & Sprachman, 1998, p. 5). These are rated on a 5 point scale: (0) Ignoring/None; (1) All Negative; (2) Mostly Negative; (3) Mostly Positive/Neutral; (4) All Positive/Neutral.

F. Caregiver Behavior towards FC

G. FC Behavior towards Caregiver

H. FC Behavior towards Other Children

## **II. Administration of Measure**

### **Who Administers Measure/Training Required**

*Test Administration:* The C-COS can be used by individual programmers or researchers.

*Training Required:* Observers should be trained by a C-COS Instructor, practice the C-COS in the field in at least one child care center and one family child care home, and test their reliability by coding the C-COS test tape. Number of total hours required for training is unclear from materials reviewed.

### **Time Needed and Cost**

*Time:* Approximately 2 hours per observation.

*Cost:* User's Guide and Toolkit: \$5.00 for instructor's manual. Exact cost of training is unclear from materials reviewed.

## **III. Functioning of Measure**

### **Reliability Information**

Interclass Correlations = .75

### **Validity Information**

Correlated with the Arnett Caregiver Interaction Scale ( $r = .23 - .33$ )

## Child Development Program Evaluation Scale (CDPES)

### I. Background Information

#### Author/Source

*Source:* Fiene, R. (1984). *Child Development Program Evaluation Scale and COFAS*. Washington, DC: Children's Services Monitoring Consortium.

#### Purpose of Measure

*As described by the authors:*

“The purpose in constructing the CDPE Scale was the perceived need in the child development program area to have a comprehensive scale that could be used by states or local agencies to determine compliance of child development programs with basic minimal requirements that ensure a child is in a safe and healthy environment” (Fiene, 1984, Introduction).

The scale also measures the quality of the child development program.

#### Population Measure Developed With

“The 37 item scale was selected from nearly 900 Items. These 900 items were from different states’ Compliance Instruments. . It is a generic scale that incorporates results from Pennsylvania’s Child Development Evaluation Instruments, West Virginia’s and New York City’s Child Development Compliance Instruments, California Child Development Quality Assessment Instrument, NAEYC and CWLA National Standards and the results of the National Day Care Study” (Fiene, 1984, Introduction).

#### Age Range/Setting Intended For

The CDPES may be used with infants, toddlers, preschoolers, and school age children.

#### Ways in which Measure Addresses Diversity

One item assesses “Ethnic and Cultural Recognition” and evaluates the extent to which information is available to staff regarding traditional ethnic and cultural observances, learning opportunities are provided that acknowledge ethnic and cultural backgrounds of the children and community, activities are implemented to enhance a sense of cultural pride, each child shares his or her individual ethnic and cultural background, and staff provide multicultural experiences that enlarge each child’s knowledge of other cultures throughout the world.

### **Key Constructs & Scoring of Measure**

The CDPES measures seven domains: administration, environmental safety, child development curriculum, health services, nutritional services, social services, and transportation.

Each domain is described in more detail below:

- *Administration* (6 items)
  - Staff qualifications
  - Adult child ratio/group size
  - Child development program
  - Employee performance evaluation
  - Personnel policies
  - Staff development
- *Environmental Safety* (4 items)
  - Whether the center is hazard free
  - Access to cleaning materials
  - Sufficient space
  - Equipment
- *Child Development Curriculum* (15 items)
  - Supervision of children
  - Observations about whether activities promote the development of skills, self-esteem, etc. (the Caregiver Observation Form and Scale (COFAS) is used to determine compliance with this item)
  - Goals and objectives
  - Identification of child's needs
  - Social emotional development
  - Physical development
  - Cognitive development
  - Language development
  - Art
  - Music
  - Dramatic play
  - Personal interaction
  - Self concept
  - Ethnic and cultural recognition
  - Special needs of the child
- *Health Services* (4 items)
  - Health appraisal
  - Emergency contact
  - Administration of medication
  - Child's health record
- *Nutritional services* (2 items)
  - Nutrition (in the licensing scale)
  - Nutrition (in the program quality scale)
- *Social Services* (5 items)

- Staff parent communication
- Family confidentiality
- Parent activities
- Parent involvement
- Parent education.
- *Transportation* (1 item)
  - Safety of the carrier.

While the CDPES may be used in its entirety to assess the seven domains above, it actually comprises two distinct scales: a center licensing scale and a program quality scale. Both are described in more detail below.

- *The Center Licensing Scale* assesses 13 items: health appraisal, caregiver observations, emergency contact, hazard free, cleaning materials, supervision of children, staff qualifications, group size and adult/child ratios, sufficient space, nutrition, administration of medication, safety carrier and equipment.
- *The Program Quality Scale* assesses the following items: child development program, employee performance evaluation, personnel policies, staff development, goals and objectives, identification of child's needs, social emotional development, physical development, cognitive development, language development, art, music and dramatic play, nutrition, personal interaction, self concept, ethnic and cultural recognition, special needs of the child, staff parent communication, child's health record, family confidentiality, parent activities, parent involvement, and parent education.

Items on the *Center Licensing Scale*, designed to rate compliance, are scored on a dichotomous scale, with a 0 indicating they are out of compliance and a 3 indicating that they are in compliance (there is no score of 1 or 2).

For the *Program Quality Scale*, observers rate on a score of 1 to 5, with 1 indicating the lowest quality, and a 5 indicating the highest quality. The program quality scale builds one level upon the other, such that in order to obtain a score of 3, the program must be doing everything at levels 1 and 2. For the majority of the questions, ratings can be determined by reviewing center documentation or interviewing of staff members. Ratings of quality related to social-emotional development, physical development, cognitive development, language development, art, music, and dramatic play should be performed based on classroom observations.

## II. Administration of Measure

### **Who Administers Measure/Training Required**

*Test Administration:* The CDPES can be used by state licensing and monitoring staff, researchers, and directors of early care and education programs.

*Training Required:* Training on the CDPES requires 1-2 days of classroom training followed by on-site inter-rater reliability (usually 2-3 days). Individuals who are interested in using the scale should plan on 1 week of training and on-site implementation before using the scale for actual data collection.

### **Setting**

The CDPES is administered in the child care setting. If there is more than one classroom in the center, one classroom is to be randomly selected and observations should be based on that classroom.

### **Time Needed and Cost**

*Time:* Generally the CDPES can be completed in a day's time by one individual for programs that have fewer than 60 children. If the program is between 61-120 children, plan on 2 days to complete the scale and if 121 or greater plan on 3 days to complete the scale.

*Cost:* Free

## **III. Functioning of Measure**

### **Reliability Information**

#### *Inter-rater Reliability*

Inter-rater reliability kappa = .91

#### *Internal Consistency*

Cronbach's Alpha = .94 Total Scale

### **Validity Information**

#### *Construct Validity*

Was assessed by comparing the CDPES with licensing and program quality assessment decisions and ratings ( $r = .67$ ;  $p < .01$ )

#### *Concurrent Validity*

Was assessed by comparing the CDPES and the ECERS total scores ( $r = .77$ ;  $p < .005$ )

#### *Predictive Validity*

“The licensing predictor items are statistically significant items that have been found to predict the overall compliance of child day care centers with state regulations in four states' regulations” (Fiene, 1984, Introduction).

### **Comments**

The Caregiver Observation Form and Scale (COFAS) is used in conjunction with the CDPES to assess the behaviors of caregivers while interacting with children in a classroom setting.

The CDPES has been used in many states to assess the relationship between licensing and program quality. It was through these assessments that key licensing indicators were determined to distinguish between high quality programs. These results were published in several places, the most recent being the Office of the Assistant Secretary for Planning and Evaluation's "13 Indicators of Quality Childcare: Research Update 2002" (Fiene, 2002).

For additional information regarding the CDPES, please contact:

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**References**

Fiene, R. (2002). *13 indicators of quality childcare: Research update*. Washington, DC: U.S. Department of Health and Human Services.

# Child/Home Early Language & Literacy Observation (CHELLO)

## I. Background Information

### Author/Source

*Source:* Neuman, S., Dwyer, J., & Koh, S. (2007). *Child/Home Early Language & Literacy Observation Tool (CHELLO)*. Baltimore, MD: Brooks Publishing.

Neuman, S., Koh, S., & Dwyer, J. (2006). *CHELLO: The Child/Home Environmental Language and Literacy Observation*. Unpublished manuscript.

*Publisher:* Unpublished. Contact Susan Neuman: [sbneuman@umich.edu](mailto:sbneuman@umich.edu)

### Purpose of Measure

*As described by the authors:*

The CHELLO was created as an observational research tool to examine the physical and psychological environmental features of home-based child care associated with children's developing language and literacy skills. The CHELLO assesses the quality of early childhood language and literacy practice in family, friend and neighbor care settings. The CHELLO was designed to complement the Early Language and Literacy Classroom Observation (ELLCO) (Smith & Dickinson, 2002), which is an instrument used in center-based care settings. The CHELLO includes two research tools to assess instructional and affective supports in home-based care: 1) the Literacy Environment Checklist, used to assess the availability of resources and organization of space; and 2) the Group/Family Observation and Provider Interview, used to assess the instructional supports and affective environment for learning.

The CHELLO may be used for research and evaluation purposes including serving as a preassessment measure, as well as a tool for assessing intervention effects. The CHELLO can also be used as a professional development tool to improve the quality of the child care environment. The instrument also has the potential to be used for examining changes in home-based literacy interventions with parents. The CHELLO can be used in conjunction with the ELLCO to make comparisons between home-based and center-based care settings.

### Population Measure Developed With

- Initial observations to develop the measure were conducted with 10 family/group centers recommended by a local resource and referral agency in Michigan.
- The final version of the measure was completed in spring 2005. This version was used in a study of 261 providers in four urban communities: Detroit, Flint, Grand Rapids, and Lansing Michigan (Project Great Start Professional Development Initiative).

- All providers were female
- Ethnically diverse: 10% Hispanic, 29% African-American, 59% White, 2% multi-racial
- Average age was 39
- Average child care experience: 10 years or less
- Psychometric properties are based on the fall administration of the CHELLO on a sample of 119 home-based centers.

### **Age Range/Setting Intended For**

The CHELLO was designed for use in mixed-age, home-based care settings.

### **Ways in which Measure Addresses Diversity**

One item in the Adult Affect construct within the Support for Learning domain of the Group/Family Observation assesses the extent to which the provider “brings each child’s home culture and language into the shared culture of the setting so that children feel accepted and gain a sense of belonging” (Neuman, Dwyer, & Koh, 2005, p. 11).

### **Key Constructs & Scoring of Measure**

The CHELLO is organized into three sections: a literacy environment checklist, a group/family observation form, and a provider interview. Each item within the Literacy Environment Checklist is rated as either Yes or No.

Each item within the Group/Family Observation is rated on a 5-point Likert-type scale. For each item of the Group/Family Observation is rated either low (1), mid (2,3) or high (4,5). A rating of 1 is considered “Deficient,” a rating of 3 is considered “Basic,” and a rating of 5 is considered “Exemplary.” Descriptors are provided at points 1,3, and 5 on the scale.

Six provider interview questions supplement the information obtained from classroom observation elements. The interview items are particularly important to score features of the environment that may not be evident from a one-time observation (e.g., communication with parents).

The Literacy Environment Checklist contains 22 items addressing the following constructs:

- *Book Area* (4 items): Address the orderliness, comfort, and accessibility of an area set aside for reading books.
- *Book Use* (6 items): Address the number, types, and location of books in the child care environment.
- *Writing Materials* (6 items): Address materials available for writing (e.g., templates, tools, paper), whether there is a separate area set aside for writing, and whether the alphabet and children’s writing are displayed in the setting.
- *Toys* (3 items): Address whether cognitively-stimulating toys, games/puzzles, and props to support dramatic play are available.

- *Technology* (3 items): Address the availability of computers, recorded books/stories, and other technology that supports children’s language and literacy development (e.g., regularly watching the educational television program *Between the Lions*).

The Group/Family Observation contains 42 items reflecting 13 constructs organized into three domains:

- *Physical Environment for Learning*. This domain includes the following 3 constructs: Organization of the Environment (4 items), Materials in the Environment (4 items), and Daily Schedule (3 items).
- *Support for Learning*. This domain includes the following 3 constructs: Adult Affect (3 items), Adult-Child Language Interaction (4 items), and Adult Control Behaviors (3 items).
- *Adult Teaching Strategies*. This domain includes the following 7 constructs: Vocabulary Building (3 items), Responsive Strategies (3 items), Use of Print (3 items), Storybook/Storytelling Activities (4 items), Writing Activities (3 items), Monitoring Children’s Progress (3 items), and Family Support and Interaction (3 items).

Summary scores for each construct are obtained. Subtotals are generated for the Literacy Environment Checklist, and the three domains from the group/family observation - Physical Environment for Learning, Support for Learning, and Adult Teaching Strategies. Finally, an overall CHELLO total score is obtained by summing the four subtotal scores.

### **Comments**

Because the CHELLO was based on the ELLCO, there are some common items. Specifically, there are 19 items common to both measures. The Literacy Checklist contains 8 items that are the same as on the ELLCO, including book area, book availability, environmental print, and opportunities for children to write. The Observation and Interview has 11 items that are the same as on the ELLCO, including child choice, writing material and activities, reading materials and activities, organization of the environment for learning, parent communication, and ongoing progress monitoring. These subsets of items may be used for making comparisons across center-based and home-based settings, and may be particularly useful in contexts that involve multiple settings and multiple placements for children (Neuman, et al., 2006, p. 15).

## **II. Administration of Measure**

### **Who Administers Measure/Training Required**

*Test Administration:* The instrument is administered by trained observers. It is recommended that CHELLO users have a strong background in language development and early literacy developmental practices. According to the authors (Neuman, Dwyer, & Koh, 2007) users might include:

- Researchers interested in assessing the quality of language and literacy experiences in early childhood in home-based settings
- Supervisors interested in improving the quality of home-based care
- Facilitators or coaches who want to target professional development efforts
- Program officers who wish to establish results-oriented accountability

*Training Required:* A manual, which provides observers with examples of how each item should be scored, should be reviewed prior to participating in the training session. The day-long training session includes a discussion (and examples) of each item. Observers view videotaped examples of exemplary, mediocre, and poor settings and use the instrument to rate the examples. Participants discuss explicitly how to score each section. Once the training has concluded, pairs of observers independently rate a home environment to establish reliability.

### **Setting**

The instrument is meant to be used for observations of home-based child care settings (specifically, family, friend, and neighbor care).

### **Time Needed and Cost**

*Time:* The entire instrument takes between 1 ½ to 2 hours to complete. The 22-item Literacy Environment Checklist was designed to take 10 minutes to complete.

*Cost:* Contact Susan Neuman: [sbneuman@umich.edu](mailto:sbneuman@umich.edu)

## **III. Functioning of Measure**

### **Reliability Information**

#### *Inter-rater Reliability*

Ten pairs of observers rated 20 home-based centers. There was a high rate of agreement between observers. The inter-rater reliability for the Literacy Checklist was 91%. The inter-rater reliability for the Observation section was 91% (within one point on a 1-5 scale).

#### *Internal Consistency*

The Literacy Environment Checklist showed good internal consistency (Cronbach's alpha .82). Cronbach's alphas for the individual subscales of the checklist (books, writing, and resources) ranged from .42 to .78.

The Group/Family Observation showed very strong internal consistency (Cronbach's alpha .97). Cronbach's alphas for the individual subscales of the Group/Family Observation (physical environment for learning, support for learning, adult teaching strategies) ranged from .91 to .94.

#### *Internal Correlations*

The major subscales of the CHELLO Literacy Environment Checklist and Group/Family Observation were highly correlated with each other, indicating that the

physical and psychological aspects of the environment were highly related to one another. Correlations ranged from .34 to .97.

### **Validity Information**

#### *Concurrent Validity*

The CHELLO total score (measured in spring 2006) correlated significantly with children's language growth (as measured by the PPVT ( $r = .36, p < .01$ )), phonological skills (as measured by the PALS nursery rhyme ( $r = .25, p < .05$ )), and ability to do language-oriented math problems (as measured by the Woodcock-Johnson Applied Problems test ( $r = .28, p < .05$ )). The CHELLO was not related to children's developing alphabet skills (as measured by the Woodcock-Johnson Letter Identification subtest). Since the CHELLO was not designed to measure this skill, it is not surprising that there was no correlation between the measures.

### **References**

Smith, M. W., & Dickinson, D. K. (2002). *The Early Language and Literacy Classroom Observation*. Baltimore, MD: Brookes Publishing.

## Arnett Caregiver Interaction Scale (CIS)

### I. Background Information

#### Author/Source

*Source:* Arnett, J. (1989). Caregivers in day-care centers: Does training matter? *Journal of Applied Developmental Psychology*, 10, 541-522.

(Note that this article does not contain a list of the items on the scale. However, this is the article that is typically cited when the CIS is used.)

*Publisher:* A copy of the scale can be found in Jaeger and Funk (2001):  
Jaeger, E. & Funk, S. (2001). *The Philadelphia Child Care Quality Study: An Examination of Quality in Selected Early Education and Care Settings*. Philadelphia, PA: Saint Joseph's University.

#### Purpose of Measure

"To rate the emotional tone, discipline style, and responsiveness of teachers and caregivers in a classroom. The items focus on the emotional tone and responsiveness of the caregiver's interactions with children. The scale does not address issues of curriculum or other classroom management issues (such as grouping or flow of activities)" (U.S. Department of Education, 1997, p. 78).

#### Population Measure Developed With

"Items were developed during pilot observations in Head Start centers in the Charlottesville, Virginia area. . ." (Arnett, 1989, p. 546).

#### Age Range/Setting Intended For

This measure may be used in early childhood programs.

#### Key Constructs & Scoring of Measure

The Caregiver Interaction Scale (CIS) consists of 26 items usually divided into 4 subscales. Some researchers have conducted factor analyses on the 26 items and have found different subscales (e.g., Whitebook et al., 1989).

Observers are asked to rate the extent to which 26 items are characteristic of the child care provider whom they are observing. Items are scored on a 4-point scale from (1) Not at all characteristic to (4) Very much characteristic of the child care provider. The measure usually contains the following subscales:

- *Sensitivity* (10 items)
- *Harshness* (8 items)
- *Detachment* (4 items)
- *Permissiveness* (4 items)

## II. Administration of Measure

### **Who Administers Measure/Training Required**

*Training Required:* You must achieve a .70 inter-rater reliability for two consecutive visits to be a certified Arnett Caregiver Interaction Scale observer (Jaeger & Funk, 2001).

### **Setting**

Classroom or family child care home

### **Time Needed and Cost**

*Time:* Caregivers should be observed for 45 minutes or more.

*Cost:* None

## III. Functioning of Measure

### **Reliability Information**

#### *Inter-rater Reliability*

Jaeger and Funk (2001) reported inter-rater reliability coefficients ranging from .75 to .97 between a certified observer and trainees.

#### *Internal Consistency*

Cronbach's alphas from the Observational Study of Early Childhood Programs (Layzer et al., 1993):

Warmth/responsiveness rating (10) = .91

Harshness rating (7) = .90

Jaeger and Funk (2001) reported coefficients of .81 and higher for the sensitivity (positive interaction), punitiveness, and detachment subscales.

### **Validity Information**

#### *Concurrent Validity*

Layzer et al. (1993) found correlation coefficients of .43 to .67 between the CIS and several other measures of child care quality (i.e., Early Childhood Environment Rating Scale (ECERS), Assessment Profile for Early Childhood Programs, Description of Preschool Practices). However, the authors did not expect large coefficients because the CIS focuses more narrowly on an aspect of teacher behavior than the other observation measures.

### **References**

Layzer, J. I. (1993). *Observational Study of Early Childhood Programs. Final Report. Volume I: Life in Preschool.* (ERIC # ED366468). Washington, DC: US Department of Education.

- Love, J. M., Meckstroth, A., & Sprachman, S. (1997). *Measuring the quality of program environments in Head Start and other early childhood programs: A review and recommendations for future research* (Working Paper No. 97-36). Washington, DC: U.S. Department of Education National Center for Education Statistics.
- Whitebook, M., Howes, C., & Phillips, D. (1989). *Who cares? Child care teachers and the quality of care in America. Executive summary of the National Child Care Staffing Study*. Oakland, CA: Child Care Employee Project.

## Classroom Assessment Scoring System (CLASS)

### I. Background Information

#### Author/Source

*Source:* Hamre, B. K., Mashburn, A. J., Pianta, R. C., Lacasle-Crouch, J., & La Paro, K. M. (2006). *Classroom Assessment Scoring System Technical Appendix*.

Pianta, R. C., La Paro, K. M., & Hamre, B. K. (in press). Classroom Assessment Scoring System. Brookes Publishing

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Post Office Box 10624  
Baltimore, MD 21285-0624  
Phone: 800-638-3775  
Website: [www.brookespublishing.com](http://www.brookespublishing.com)

#### Purpose of Measure

*As described by the authors:*

The Classroom Assessment Scoring System (CLASS) is an observational instrument developed to assess classroom quality in preschool through third grade classrooms. The CLASS dimensions are based on observed interactions among teachers and students in classrooms. The dimensions were derived from a review of constructs assessed in classroom observation instruments used in child care and elementary school research, literature on effective teaching practices, focus groups, and extensive piloting. The Observational Record of Classroom Environments (ORCE, ECRN, NICHD, 1996) served as a foundation for the development of the CLASS.

The instrument may be used as a research tool, a professional development tool, and/or as a program development and evaluation tool.

#### Population Measure Developed With

The technical appendix identifies six studies on which the psychometric information for the CLASS is based.

- 694 preschool classrooms in 11 states; 730 kindergartens in 6 states (National Center for Early Development and Learning MS and SWEEP studies)
- 164 preschool classrooms in Virginia (MyTeachingPartner Study)
- 82 3<sup>rd</sup> – 5<sup>th</sup> grade classrooms in New York City (4R's Study)
- 88 1<sup>st</sup> – 5<sup>th</sup> grade classrooms in an urban district in the Northeast (Responsive Classroom Study)
- 33 classrooms (K-5) in a Southeastern city (Induction Study)
- Approximately 900 classrooms in each of 1<sup>st</sup>, 3<sup>rd</sup>, and 5<sup>th</sup> grades in 10 sites nationally (NICHD Study of Early Child Care and Youth Development)

Collectively, the CLASS has been validated in over 3,000 classrooms throughout the United States.

### **Age Range/Setting Intended For**

The CLASS was developed for use in preschool through third grade classrooms. Currently two versions of the CLASS are available: a preschool version and a K-3 version. The CLASS approach provides a common metric and language for discussion of quality across age levels and grades. Versions of the CLASS for use in Infant/Toddler, Upper Elementary and Secondary grades are currently in development. Data on these versions are available from the authors (contact Bridget Hamre, Ph.D. at [hamre@virginia.edu](mailto:hamre@virginia.edu)).

### **Ways in which Measure Addresses Diversity**

The CLASS has been used and validated in large national studies including a diverse range of classrooms and children (Howes et al., in press; Pianta et al., 2005).

### **Key Constructs & Scoring of Measure**

Ten dimensions of classroom quality are identified across three domains of interaction – Emotional Support, Classroom Organization, and Instructional Support. These domains of interaction are common across the preschool to third grade period. Each dimension is rated on a 7-point Likert-type scale. The manual describes anchor behaviors for Low (1,2), Mid (3,4,5) and High (6,7) scores for each item.

- *Emotional Support*
  - Positive Climate
  - Negative Climate
  - Teacher Sensitivity
  - Regard for Student Perspectives
- *Classroom Organization*
  - Behavior Management
  - Productivity
  - Instructional Learning Formats
- *Instructional Support*
  - Concept Development
  - Quality of Feedback
  - Language Modeling

### **Comments**

Previous versions of the CLASS have included the following constructs: Over-control (replaced by Regard for Student Perspectives), Literacy Development (replaced by Language Modeling and Literacy Focus), Quality of Numeracy and Math Instruction, Social Studies Instruction and Activities, Science Instruction and Activities, and Children’s Engagement (Hamre et al., 2006; La Paro & Pianta, 2003-R).

Ratings should reflect the overall classroom environment as experienced by the children. That is, if there are multiple teachers in the room, all teacher behavior should be included to determine a rating. However, the CLASS can be easily adapted

for use to describe the quality of a particular teacher. Observation notes are the primary source of supporting evidence for ratings.

## **II. Administration of Measure**

### **Who Administers Measure/Training Required**

*Test Administration:* Trained CLASS users observe in classrooms for twenty minute intervals and then score each CLASS dimension. The manual recommends gathering at least four of these twenty minute intervals to assess a classroom. It is also possible to score with the CLASS based on videotaped footage. Although the manual describes a standardized protocol for observation, the procedure can be modified to meet the goals of specific projects.

*Training Required:* Training is required to assure proper use of the instrument for each of its intended uses (i.e., research, professional development, program development and evaluation). All observers must attend training and pass a reliability test. Regular training sessions are available at the University of Virginia and University of North Carolina – Greensboro. Trainers are also available to provide local trainings. In addition, there are several “Train the Trainer” workshops each year at the University of Virginia in which people can become certified CLASS trainers. Refer to website for a schedule of trainings.

### **Setting**

Observations are made in the classroom.

### **Time Needed and Cost**

*Time:* The authors recommend observing for a minimum of four 20-minute cycles (approximately 2 hours total) in order to get an accurate sampling of classroom quality data across the three CLASS domains. Total time will vary dependent on the purpose of the observation.

*Cost:* Two-day training at UVA: \$600/person  
Four-day training (Train the trainer): \$1,000/person  
Local Training: \$3,000 for up to 15 people (plus travel costs for 1 trainer)  
Pre-K Manual: \$49.95  
K-3 Manual: \$49.95  
Pack of 10 scoring forms: \$25

## **III. Functioning of Measure**

### **Reliability Information**

#### *Inter-rater Reliability*

As mentioned earlier, all observers must attend training on the CLASS and take a reliability test. Observers code five 20-minute videotaped classroom sessions. The average inter-rater reliability (within one point of master codes) is reported in the Technical Appendix (p. 9) as 87 percent.

Two observers both coded a total of 33 30-minute digital videotapes submitted by teachers in the MyTeachingPartner (MTP) Study. Inter-rater reliability (within 1 point of each other) ranged from 78.8 percent (for Behavior Management and Instructional Learning Formats) to 96.9 percent (for Productivity). Similar levels of reliability have been obtained in live observations (Hamre et al., 2006, p. 9).

#### *Internal Consistency*

Correlations among the CLASS dimensions range from .11 to .79. Correlations for the preschool sample in the MS/SWEEP Studies were generally lower than those for the third grade sample in the 4R's Study.

Confirmatory factor analyses were performed on data from each of the studies except for the Induction Study (Hamre et al., 2006). Analyses revealed three factors representing Emotional Support, Classroom Organization, and Instructional Support. Within the MTP sample, which used the most current version of the CLASS, internal consistency were: Emotional Support (alpha = .89); Classroom Organization (alpha = .77); and Instructional Support (alpha = .83).

#### *Stability across Time*

Stability of ratings across observation cycles was assessed in preschool and 3<sup>rd</sup> grade classrooms using data from the NCEDL MS Study of preschool and the 4R's Study of 3<sup>rd</sup> grade classrooms in New York City. For the 3<sup>rd</sup> grade sample, correlations between the first cycle and the total score are moderate to high, ranging from .68 for Productivity to .87 for Positive Climate. For the preschool sample, correlations between the first 4 cycles and the final score ranged from .84 for Productivity to .91 for Concept Development. By completing two cycles correlations with the final score are uniformly high with almost all correlations above .90 in both preschool and 3<sup>rd</sup> grade (Hamre et al., 2006, p. 10).

Correlations between observations made on two consecutive days suggest a high degree of stability, with correlations between the two days ranging from .73 for Productivity to .85 for Teacher Sensitivity. "There were small but significant mean changes across several of the dimensions with a general trend toward lower quality scores on the second day. Given that there is no reason to expect a systematic difference in quality across two consecutive days these small changes may be due to observer bias in which scores become slightly lower over time. Again, however, although these differences are statistically significant, they are relatively small effects and correlations between the two days are high" (Hamre et al., 2006, p. 13).

CLASS scores have also been found to be relatively stable across the school year, at least in a large number of preschool classrooms. Analyses also indicate that 7-point rating scales of the classroom are highly stable and not dependent on occasion.

## **Validity Information**

### *Criterion Validity*

The CLASS domains of Emotional Support, Classroom Organization, and Instructional Support are correlated with teacher reports of depression and adult-centered attitudes. Specifically, classrooms with lower scores across the CLASS dimensions had teachers who reported higher levels of depression while those with lower scores on classroom organization and instructional support had teachers who reported more adult-centered attitudes.

### *Concurrent Validity*

In comparisons of the CLASS with the Early Childhood Environmental Rating Scale (ECERS-R), classrooms with higher CLASS scores were rated higher on the ECERS interactions factor (correlations range from .45 to .63). Correlations between CLASS ratings and the Furnishings and Materials factor from the ECERS were only moderate, ranging from .33 to .36 (Pianta et al., 2005).

The CLASS has also been compared to The Snapshot, a time-sampling method used to assess the percent of time spent on various activities (Pianta et al., 2005). Because the CLASS assesses the quality rather than the quantity of classroom activities, it is not surprising that there were low (but still significant) correlations between the CLASS instructional support domain and time spent in literacy and math according to The Snapshot. Children in classrooms with higher CLASS scores spent more time in elaborated interactions with adults and significantly more time engaged.

### *Predictive Validity*

Results from the NCEDL Multi-state study provide evidence that classroom quality, as assessed by the CLASS, is associated with children's performance at the end of preschool, as well as gains in their performance across the preschool year (Howes et al., in press). These associations were sustained, even after controlling for a variety of covariates, including maternal education, ethnicity, and gender. The most consistent and robust classroom quality dimension for predicting growth across time was the Instructional Support of the classroom as assessed by the CLASS. The CLASS Emotional Support scale was associated with growth in children's expressive and receptive language scores, as well as decreases in teacher-reported behavior problems (Howes et al., in press).

### *Content Validity*

The CLASS dimensions are based on observed interactions among teachers and students in classrooms. The dimensions were derived from an extensive review of constructs assessed in classroom observation instruments used in child care and elementary school research, literature on effective teaching practices, focus groups, and piloting.

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# Classroom Language and Literacy Environment Observation (CLEO)

## I. Background Information

### Author/Source

*Source:* Holland Coviello, R.(2005). *Language and literacy environment quality in early childhood classrooms: Exploration of measurement strategies and relations with children's development.* State College, PA: Pennsylvania State University.

*Publisher:* Dissertation published by:  
ProQuest Information and Learning Company  
300 North Zeeb Road  
P.O. Box 1346  
Ann Arbor, MI 48106-1346

### Purpose of Measure

*As described by the author:*

The various elements of the CLEO are meant to address several elements of preschool language and literacy classroom environments that research has shown are important for affecting children's learning, including the quantity and quality of teacher language input, language and literacy teaching, and children's access to literacy materials in the classroom.

### Population Measure Developed With

The CLEO was developed with 16 urban pre-kindergarten classrooms that served Head-Start eligible children and 20 mostly rural Head Start classrooms.

### Age Range/Setting Intended For

The CLEO is intended for classrooms that serve children ages 3-5, including preschool, pre-K, center-based child care, and Head Start settings.

### Ways in which Measure Addresses Diversity

One of the programs in which the CLEO was developed served a number of families for whom English was not a first language. The Language Interaction Ratings were thus written to include (in italics) descriptors that could indicate quality of interaction between a teacher and a child learning English. These descriptors were to be considered when making ratings in addition to the other scale descriptors only when a child or children for whom English was not a home language were present in the classroom.

### Key Constructs & Scoring of Measure

There are 5 major elements to the CLEO.

- Literacy Environment Inventory (CLEO-LEI): modified and expanded version of the Early Language and Literacy Classroom Observation's Literacy Environment Checklist (ELLCO LEC; Smith, Dickinson, & Sangeorge, 2002). This section is meant to assess the structural elements of the classroom's literacy environment, such as the presence and availability of books and writing supplies.
- Language Interaction Observation (CLEO-LIO): a simplified version of the Teacher-Child Verbal Interaction Profile (TCVI; Dickinson, Haine, & Howard, 1996) coding scheme, with new coding categories that are theoretically derived from the language development literature. The categories include brief and extended comments, open-ended questions, closed-ended questions, and directives, as well as decontextualized talk.
- Language Interaction Ratings (CLEO-LIR): addresses the sensitivity and cognitive challenge of teachers' verbalizations to children. These items are rated on a 1-5 scale.
- Literacy Activities Inventory (CLEO-LAI): adapted from the ELLCO's Literacy Activities Rating Scale (LARS). New items on bookreading and writing in this section expand upon the ELLCO LARS. Some items were rewritten to focus on teacher behaviors.
- Literacy Activities Rating scale (CLEO-LAR): similar to the CLEO-LIR section, this group of items is rated on a 5-point scale. The items assess the extent to which literacy activities, interaction, and instruction observed in the classroom is developmentally appropriate, and integrated into the social environment of the classroom.

### **Comments**

A CLEO observation should last throughout the classroom day so that all relevant elements are observed. CLEO-LIO coding and LIR ratings can be completed during different classroom activities, such as mealtime, free play, and bookreading, to capture a variety of patterns of language use (see Gest, Holland-Coviello, Welsh, Eicher-Catt, & Gill, 2006). The remaining portions of the CLEO can be completed at the end of the observation, though it is advised that observers keep counts and notes of activities throughout the observations.

## **II. Administration of Measure**

### **Who Administers Measure/Training Required**

*Test Administration:* The CLEO is most successful when administered by people who have at least bachelors degrees plus experience teaching and/or observing in early childhood classrooms.

*Training Required:* In the original study, observers participated in a one-day training session. Master-coded video-tapes were used to establish reliability for the LIO and LIR language coding. Participants also participated in live classroom observations to establish reliability on verbalization coding, rating scales, and checklists.

### **Setting**

This measure is intended for use in formal child care settings, preschool or pre-K classrooms, and Head Start classrooms.

### **Time Needed and Cost**

*Time:* For training, sites should allow at least one day for initial training, plus 6-8 weeks of practice and reliability training with video-tapes and live in classrooms to establish inter-rater reliability among observers. Once reliability has been established, independent observers should plan to spend one classroom day in each classroom to be assessed. It is recommended that at least 10% of all observations be done in pairs to ensure ongoing inter-rater reliability.

*Cost:* The author will provide the measure free of cost. Training can be provided by the author and costs \$40/hour for prep (8 hours) and training time plus travel expenses. The author may be contacted by email at rholland-coviello@air.org.

## **III. Functioning of Measure**

### **Reliability Information**

#### *Inter-rater Reliability*

In the 36 classrooms in which the CLEO was developed, six classrooms (17%) were observed by two people. Pairs consisted of the author and one of two beta observers. Percent agreement for LEI items averaged 95% and 100% across all items for each beta observer with the alpha observer. Similarly, percent agreement for LAI items averaged 93% and 100% across all items for each beta observer with the alpha observer. Average percent agreement within 1 scale-point for LAR was 94% for each pair of observers. Intraclass correlations were also used to determine the reliability of average total scores on the LAR, and they were .80 and .93 for each pair of observers.

LIO coding and LIR were different since there was more than one of these observations per class. There were 225 language observations in all, and 47 (21%) of those were completed in pairs of the alpha observer with one beta observer or the other. Intraclass correlations were used to ascertain Inter-rater reliability again. Intraclass correlations were computed for each Utterance category-- directives, yes/no questions, open-ended questions, brief answers, extended answers, brief comments, extended comments, decontextualized comments, and pretend comments-- with each pair of observers. As Table 1 reveals, intraclass correlations were adequate, or higher than .60, for all but two Utterance categories: brief answers and pretend utterances.

Both of these were low-frequency codes, which contributes to the low reliability, but solutions were devised to make the codes usable in analyses. Brief answers were collapsed with brief comments, and extended answers with extended comments. The reliability for these collapsed coding categories was sufficient with intraclass correlations ranging from .64 to .99. For pretend comments, the code was dichotomized so that any coding of pretend in the observation yielded a score of 1, and no coding of pretend utterances yielded a score of 0. Kappa was used to

determine the reliability of this less rigorous coding and revealed an adequate agreement of 0.64 and 1.00 for the two pairs of observers. Finally, intraclass correlations between the two observers in each pair for the two subscales of the LIR revealed adequate agreement (ICC's range from 0.67 to 0.92).

Table 1: *Reliability of CLEO Utterance Coding and Language Ratings (Intraclass Correlations)*

<b>CLEO Utterance Category</b>	Alpha, Beta 1	Alpha, Beta 2
Directives	0.85	0.97
Yes/no questions	0.95	0.97
Open-ended questions	0.94	0.98
Brief answers	0.70	0.02
Extended answers	0.81	0.60
Brief comments	0.73	0.60
<i>Brief comments + brief answers</i>	0.74	0.64
Extended comments	0.90	0.99
<i>Extended comments + extended answers</i>	0.90	0.99
Decontextualized comments	0.94	0.97
Pretend comments	0.20	0.47
<i>Kappa: some pretend vs. no pretend</i>	0.64	1.00
<b>CLEO LIR Subscales</b>		
Sensitivity and Responsiveness	.72	.88
Richness of Talk	.67	.92

*Internal Consistency*

CLEO-LEI: alpha = 0.66  
 CLEO-LIR: alpha = 0.81  
 CLEO-LAR: alpha = 0.83  
 CLEO-LAI: alpha = 0.66

**Validity Information**

*Construct Validity*

Strong correlations in expected directions among scores on the different elements of the CLEO demonstrate its construct validity. See Table 2 below for correlations.

*Concurrent Validity*

There have not yet been enough CLEO data collected to complete concurrent validity analyses.

*Convergent & Discriminant Validity*

CLEO data have been compared to ECERS and ELLCO data from the same classrooms. The CLEO subscales were generally associated with ELLCO subscales in expected ways, confirming the hypothesis that the CLEO and ELLCO measure

similar aspects of classroom environments. The possibility of observer bias does warrant caution in interpreting these results. The author completed the majority of both the ELLCO and CLEO observations. The nature of CLEO Utterance coding is objective relative to rating scales, though, and the classroom-level teacher language use variables were associated with the ELLCO in moderately strong and expected ways. Moreover, the ELLCO was completed at least 1 month before the CLEO observations were begun. CLEO convergence with ECERS-R observations was lower than that with the ELLCO. See Table 2 for correlations between scores on each measure.

	1	2	3	4	5	6	7	8
<b>CLEO</b>								
1. Literacy Materials								
2. Utterances: Classroom Rate of High Quality Talk	.13							
3. Utterances: Classroom Proportion of High Quality Talk	.03	.48**						
4. Utterances: Classroom Rate of Directives	.03	.16	-.56**					
5. Utterances: Classroom Proportion of Directives	-.10	-.58**	-.67**	.64**				
6. Language Ratings: Classroom Sensitivity and Responsiveness	.09	.59**	.26	-.12	-.66**			
7. Literacy Activities	.54**	.17	.04	.12	-.01	-.06		
8. Literacy Ratings	.55**	.41*	.20	-.03	-.43**	.54**	.54**	
<b>ELLCO</b>								
9. Literacy Materials	.73**	.31	.37	-.12	-.30	.11	.40	.56*
10. General Classroom Environment Ratings	.33	.30	.33	-.53*	-.76**	.78**	-.05	.37
11. Language, Literacy, & Curriculum Ratings	.52*	.20	.51^	-.47	-.54*	.53*	.11	.39
12. Literacy Activities	-.12	.36	.14	.09	-.18	.60*	-.17	.16
<b>ECERS-R</b>								
13. Total	.33	.07	-.30	-.06	-.18	-.01	-.20	.11
14. Language-Reasoning	.45	.10	-.03	-.16	-.26	-.14	-.03	.20

Table 2: Correlations Among CLEO, ELLCO, and ECERS-R Variables

^p < .10, \*p < .05, \*\*p < .01

*Predictive Validity*

Preliminary analyses on a small sample have thus far not confirmed the CLEO’s predictive validity. Data continue to be collected, so future analyses may provide evidence of the CLEO’s predictive validity.

*Content Validity*

See Holland Coviello (2005, Chapters 2-3) for a literature review connecting CLEO elements and items with research identifying important aspects of environments for children's language and literacy development.

**References**

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## Caregiver Observation Form and Scale (COFAS)

### I. Background Information

#### Author/Source

*Source:* Fiene, R. (1984). *Child Development Program Evaluation Scale and COFAS*. Washington, DC: Children's Services Monitoring Consortium

#### Purpose of Measure

*As described by the authors:*

The Caregiver Observation Form and Scale (COFAS) is used to record behaviors of caregivers while interacting with children in a classroom setting.

#### Population Measure Developed With

The COFAS was developed to complement the Child Development Program Evaluation Scale (CDPES) in order to assess interactions between teachers and children in child care settings. The items included in the COFAS were included after an extensive review of the research literature on the distinguishing characteristics of high quality programs and their teachers.

#### Age Range/Setting Intended For

The COFAS can be used with any age group of children between infancy and 12 years of age.

#### Ways in which Measure Addresses Diversity

The COFAS does not directly measure diversity but it is intended to be used with the CDPES which has an item that addresses diversity.

#### Key Constructs & Scoring of Measure

There are five key constructs of the COFAS: *Language, Socio-emotional, Motor, Cognitive, and Caregiving*. Each is described in detail below:

- *Language* (9 items)
  - Speak unsolicited to child
  - Use the child's dialect
  - Respond verbally to child's speech
  - Read or identify pictures to a child
  - Sing or play music with a child
  - Speak slowly and clearly to a child at all times
  - Interrupt or cut off a child's verbalization
  - Scream or yell at children
  - Allow noise level to become too high it is hard to understand children
- *Socio-emotional* (11 items)
  - Give affectionate physical contact to child

- Make activity suggestion to child
- Physically punish child
- Use food as a reinforcement
- Make fun of or ridicule a child
- Let other children make fun of or ridicule a child
- Verbally criticize, scold or threaten a child
- Isolate a child physically
- Ignore a child's request
- Interrupt a child's activity and prevent its completion
- Leave the child alone
- *Motor* (1 item)
  - Foster development of gross motor skills
- *Cognitive* (4 items)
  - Show impatience or annoyance with child's questions
  - Use terms which are above a child's reasoning ability
  - Deal in abstract concepts without concrete examples
  - Show intolerance with a child's mistakes
- *Caregiving* (4 items)
  - Prepare or serve food for a child
  - Prepare activities or arrange the room
  - Do nothing
  - Talk with other adults

Each caregiver is observed for 10 consecutive two minute periods, with pauses between observations to record. During the pauses, observers record whether or not they observed each behavior listed on the form. The ten responses for each behavior are then summed and multiplied by a weight (either positive or negative) to yield an interaction score for that behavior. Once all behaviors are individually scored, they may be summed to obtain a total interaction score. This score can then be checked against the COFAS scale where a Level 1 indicates "Good" interaction, Level II indicates "Fair," Level III indicates "Poor," and Level IV indicates "Non-optimal."

### **Comments**

## **II. Administration of Measure**

### **Who Administers Measure/Training Required**

*Test Administration:* The COFAS can be used by state licensing and monitoring staff, researchers, and directors of early care and education programs.

*Training Required:* Training on the COFAS requires a half day of classroom instruction followed by 3-4 days of on-site inter-rater reliability testing. Individuals who are interested in using the scale should plan on 1 week of training and on-site implementation before using the scale for actual data collection.

**Setting**

The COFAS is to be administered in the classroom setting.

**Time Needed and Cost**

*Time:* Each caregiver is to be observed for 10 consecutive two minute periods, with pauses between observations to record.

*Cost:* Free.

**III. Functioning of Measure**

**Reliability Information**

*Inter-rater Reliability*

Inter-rater reliability kappa = .81

*Internal Consistency*

Cronbach's Alpha = .89 Total Scale

**Validity Information**

*Construct Validity*

Was assessed by comparing the COFAS with licensing and program quality assessment decisions and ratings ( $r = .61; p < .05$ )

*Concurrent Validity*

Was assessed by comparing the COFAS and the ECERS total scores ( $r = .67; p < .01$ )

**Comments**

The COFAS is intended to be used in conjunction with the CDPES. It is an excellent addition to the CDPES in assessing the behaviors of caregivers while interacting with children in a classroom setting.

For additional information regarding the COFAS, please contact:

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Human Development and Family Studies  
W-311 Olmsted Building  
Penn State University - Harrisburg  
777 West Harrisburg Pike  
Middletown, Pennsylvania 17057  
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## Classroom Practices Inventory (CPI)

### I. Background Information:

#### Author/Source

*Source:* Hyson, M. C., Hirsh-Pasek, K., & Rescorla, L. (1990). The Classroom Practices Inventory: An observation instrument based on NAEYC's guidelines for developmentally appropriate practices for 4- and 5-year-old children. *Early Childhood Research Quarterly*, 5, 475-494.

NICHD Study of Early Child Care and Youth Development. (1995). Instructions for completing the classroom observations. In *Phase II Manuals* (pp. 1-41).

#### Purpose of Measure

The Classroom Practices Inventory is a rating scale designed to assess the developmental appropriateness of classroom and curriculum practices, teacher behaviors, children's activities, and teacher-child interactions. "Developmentally appropriate practices emphasize direct experiences, concrete materials, child-initiated activity, social interaction, and adult warmth" (Love, Meckstroth, & Sprachman, 1997, p. 80).

#### Population Measure Developed With

"The CPI was developed as part of a 2-year study titled 'Academic Environments in Early Childhood: Challenge or Pressure?' (Hyson, Hirsh-Pasek, & Rescorla, 1989) . . . The CPI was used in the Academic Environments study to observe ten early childhood programs reputed to represent a variety of educational practices. These programs had been selected for the study because they had reputations in the community as being either relatively academic or relatively unstructured and play oriented. Located in Pennsylvania and Delaware, these half-day private preschools served middle and upper middle class families. All were 4-year-old or pre-kindergarten programs. . .

The sample was supplemented by including observations of 48 additional programs by university students in early childhood education courses. These programs represented a wider range of settings, including half-day preschools, laboratory schools, day care centers, and public and private kindergartens in Pennsylvania and Delaware.

In all, the CPI was used in 207 separate observations of 58 early childhood programs, with a mean of 3.5 observations of 58 early childhood programs" (Hyson et al., 1990, p. 479).

**Age Range/Setting Intended For**

The CPI is intended to be used in early childhood programs for 4- and 5-year-old children.

**Ways in which measure addresses diversity**

The NAEYC guidelines incorporate cultural and linguistic diversity as an element of developmentally appropriate practices. In the manual developed for the NICHD Study of Child Care, Item #1-3 asks the observer to take note of “any evidence of cultural awareness as indicated in artifacts in the classroom: holiday displays, pictures, picture books, posters, etc.” (NICHD, 1995, p. 41).

The NICHD observer manual also explains that the observer should look for any dolls or toys that represent different ethnic groups while also looking for evidence of ethnic or religious traditions. It is stressed that the observer should look for the representation of multiple ethnicities and religions.

**Key Constructs of Measure**

The CPI is a 26-item rating scale, based on the 1985 edition of the NAEYC guidelines for developmentally appropriate practices. Each item is rated on a 5-point Likert-type scale from ‘not at all like this classroom’ to ‘very much like this classroom.’

- “*Developmentally appropriate*” practices (10 items)
- “*Developmentally inappropriate*” practices (10 items)
- *Emotional climate* (6 items). “These items tap teachers’ warmth, encouragement, and positive guidance, as well as the overall affective tone of the classroom” (Hyson et al., 1990, p. 478-479).

The measure was developed before NAEYC’s 1997 revision of the Developmentally Appropriate Practice position statement and guidelines (Bredekamp & Copple, 1997). As a result, the constructs used in the measure do not reflect revisions that placed more importance on (a) a broader range of teaching strategies, (b) cultural and individual adaptations of classroom practices, and (c) the place of academic content within an “appropriate” early childhood classroom environment.

**II. Administration of Measure:**

**Who Administers Measure/Training Required**

*Administration of Measure:* “Ratings are based on several hours of direct observation. In the Academic Environments study (Hyson, Hirsh-Pasek, & Rescorla 1989), 10 programs were visited twice within two weeks by observers with training and experience in early childhood. In addition, 48 day care settings were visited by students in early childhood courses; each program was observed for two and a half hours” (Love et al., 1997, p. 80).

*Training Required:* “Training of student observers consisted of reviewing complete NAEYC guidelines, reviewing the items, and doing practice classroom observations” (Love et al., 1997, p. 80).

Several weeks of preliminary observations are required for observer training.

**Setting**

The CPI is appropriate for early childhood programs for 4- and 5-year olds. The measure was adapted for use in kindergarten-primary programs (Vartuli, 1999).

**Time Needed and Cost**

*Time:* Observers must spend at least 2.5 hours in the classroom before completing the CPI.

**III. Functioning of Measure:**

**Reliability information**

*Inter-rater Reliability*

Based on observations of 10 programs, inter-rater agreement averaged 64 percent. Agreement within 1 scale point was 98 percent. Total CPI scores correlated .86 across pairs of raters (Hyson et al., 1990).

*Internal Consistency*

- “*Developmentally appropriate*” practices = .92
- “*Developmentally inappropriate*” practices = .93
- *Emotional climate* = .88
- Total appropriateness (26 items) = .96

*Intercorrelations Among Items*

Appropriate and inappropriate program items correlated ( $r = -.82$ ). Emotional climate correlated with program focus ( $r = .81$ ) (Hyson et al., 1990).

**Validity Information**

*Concurrent Validity*

CPI scores were related to programs’ community reputations as academic or play-oriented and unstructured and to the self-reported educational attitudes of the program teachers (Hyson et al., 1990).

*Content Validity*

The CPI was developed specifically to operationalize the 1985 NAEYC Guidelines for Developmentally Appropriate Practice. The wording of items closely paralleled the wording of the Guidelines.

**References**

Hyson, M. C., Hirsh-Pasek, K., & Rescorla, L. (1989). *Academic environments in early childhood: Challenge or pressure?* Final report to the Spencer Foundation.

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Love, J. M., Meckstroth, A., & Sprachman, S. (1997). *Measuring the quality of program environments in Head Start and other early childhood programs: A review and recommendations for future research* (Working Paper No. 97-36). Washington, DC: U.S. Department of Education National Center for Education Statistics.

Vartuli, S. (1999). How early childhood teacher beliefs vary across grade level. *Early Childhood Research Quarterly, 14* (4), 489-514.

# The Emergent Academic Snapshot (EAS)

## I. Background

### Author/Source

*Source:* Ritchie, S., Howes, C., Kraft-Sayre, M. & Weiser, B. (2001). *Emergent Academic Snapshot Scale*. Los Angeles: UCLA (Unpublished Instrument). Adapted from previous instruments for use in the National Center for Early Development and Learning (NCEDL) Multi-State Study of Pre-Kindergarten and the State-Wide Early Education Programs Study (SWEET) (Early, Barbarin, Bryant, Burchinal, Chang, Clifford, Crawford, Weaver, Howes, Ritchie, Kraft-Sayre, Pianta, & Barnett, 2005).

*Publisher:* Available from Howes, Department of Education, University of California at Los Angeles, Box 951521, Los Angeles, CA; howes@gseis.ucla.edu

### Purpose of Measure

The EAS is a time sampling observation instrument designed to describe children's exposure to instruction and engagement in academic activities as well as to describe activities and adult responsive involvement. The unique contributions of EAS as compared to previous observational instruments are in the teacher engagement of the children and children's engagement with academic activities sections.

### Population Measure Developed With

The EAS was developed with children from diverse ethnic/racial and home language backgrounds, enrolled in various child care settings from relative or informal care, to center-based care, and children in pre-kindergarten and kindergarten programs.

### Age Range/Setting Intended For

The EAS is used with children 10 months to 8 years. The EAS may be used in home and classroom early care and education settings

### Ways in Which Measure Addresses Diversity

The measure was developed in settings with diverse populations. It does not directly measure diversity.

### Key Constructs of Measure

The 27 items on the EAS are divided into sections including:

- Children's activity setting (Howes & Smith, 1995; Kontos, Howes, Galinsky, & Shinn, 1997; Kontos, Howes, Shinn, & Galinsky, 1995)
- Adult involvement with the child (Adult Involvement Scale) (Howes, Phillips, & Whitebook, 1992; Howes & Stewart, 1987)
- Peer Play Scale (Howes & Matheson, 1992)

- Teacher engagement of the children, including codes for seven kinds of instructional strategies (e.g., didactic, uses home language of child)
- Children’s engagement with academic activities including codes for 14 specific academic activities (e.g., letter-sound correspondence)

## **II. Administration of Measure**

### **Who administers Measure/Training Required**

The measure is collected during naturalistic observation. Observers must be trained and certified by the authors. Observers should have a BA degree and experience working with children.

### **Time Needed and Cost**

*Time Needed:* The design of the study determines the time sampling frame. The instrument can be used in either a traditional time-sampled procedure – one child at a time – or as a snapshot. When one child at a time is sampled, at least 3 five-minute samples of 15- to 20-second intervals should be collected across a one- to two-hour period. When used in snapshot fashion, up to 4 children can be sampled in succession.

Each Snapshot observation consists of a 20-second observation period, followed by a 40-second coding period. The first child is observed and coded, then the second, third and fourth. When all four children are observed, the observer starts over with the first child. To be reliable each child’s behavior should be sampled 45 to 100 times.

## **III. Functioning of Measure**

### **Reliability Information**

As an observational measure there must be strict standards of reliability with the gold standard, re-establishing reliability every 10<sup>th</sup> observation, and correction for drift. In the NCEDL and SWEEP studies observer reliability mean weighted Kappa met or exceeded .75.

### **Validity Information**

#### *Concurrent validity*

Teacher engagement of the children and children’s engagement with academic activities have modest and positive associations with the *Early Childhood Environment Rating Scale-Revised* (Early et al., 2005; Harms, Clifford, & Cryer; Pianta, Howes, Burchinal, Bryant, Clifford, Early, & Barbarin, 2005).

#### *Predictive Validity*

Children’s engagement in academic activities and child assessments in language and literacy were positively associated in fall and spring of pre-kindergarten (Howes, Burchinal, Pianta, Bryant, Early, Clifford, & Babarin, in press).

## **References**

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## Early Childhood Classroom Observation Measure (ECCOM)

### I. Background Information

#### Author/Source

*Source:* Stipek, D., & Byler, P. (2004). The early childhood classroom observation measure. *Early Childhood Research Quarterly*, 19, 375-397.

*Publisher:* Unpublished. The measure may be obtained by emailing Deborah Stipek at [stipek@stanford.edu](mailto:stipek@stanford.edu)

#### Purpose of Measure

*As described by the authors:*

“Most extant observation measures of early childhood classroom environments focus predominantly on the social climate and resources of the classroom, with less attention given to the quality of instruction provided by the teacher. The Early Childhood Classroom Observation Measure (ECCOM) was developed to tap the nature and quality of academic instruction as well as the social climate, resources, and other aspects of effective classrooms” (Stipek & Byler, undated coding manual, p. 1).

The version of the ECCOM reported on in Stipek and Byler (2004) assesses independently the degree to which constructivist (child-centered) and didactic (teacher-centered) instructional approaches are observed. The measure focuses on the approach used for instruction rather than subject matter content.

The instrument was developed primarily as a research tool. However, at least one research team (Head Start Quality Research Project) is using the ECCOM as an intervention tool as well as for research. “The ECCOM might also be used effectively to help teachers assess and adjust their own practices, or as a tool for principals and directors for assessing teachers” (Stipek & Byler, 2004, p. 392). Thus, the ECCOM may be used for research, as a professional development tool, and/or as a program development and evaluation tool. The value of the ECCOM for professional development purposes has not yet been systematically assessed.

#### Population Measure Developed With

- 127 kindergarten and first-grade teachers in 99 schools (96 public, 3 private).
- The classrooms represented 46 school districts within 3 states (2 in the northeast, 1 on the west coast).
- Schools were both in urban and rural areas.
- The 127 teachers were predominantly female (n=121) and Caucasian (n=96).
- 234 children were distributed across the classrooms (118 girls, 116 boys; 159 in kindergarten, 75 in first grade).

**Age Range/Setting Intended For**

This measure is appropriate for classrooms serving children ages 4 to 7, roughly corresponding to the last year of preschool, kindergarten, and first grade.

**Ways in which Measure Addresses Diversity**

In the most recent version of the ECCOM there are checklists for “Representations Related to Diversity” and “Treatment of Native Language” (the latter only applies to classrooms in which there are limited or non-English speaking children). However, this is not the version of the measure for which psychometric information is presented.

**Key Constructs & Scoring of Measure**

The ECCOM reported on in Stipek and Byler (2004) consists of 32 items (17 constructivist, 15 didactic) rated on a scale of 1 (practices are rarely seen) to 5 (practices predominate). There were parallel items for both constructivist and didactic practices, but there were two additional items in the constructivist scale (relevance of instruction activities, and teacher warmth).

The rating of each item occurs after an observation of the classroom. Scores are based roughly on the percentage of time the described practices were seen during observation. Observers are instructed to give a score of 1 if during relevant times the practices described were seen 20% of the time or less; 2 if they were seen 21-40% of the time; 3 if they were seen 41-60% of the time; 4 if they were seen 61-80% of the time; and 5 if they were seen 81-100% of the time. These percentages were used as a guide rather than as an absolute reflection of the frequency of the practices.

- *Constructivist Subscales.*
  - *Instruction.* A high score occurs if children are held accountable for completing work and held to a clear standard, lessons are coherent and well-connected to children’s previous knowledge, lessons teach identifiable concepts and are focused on understanding, children are active participants in instructional conversations, and specific strategies for math and literacy instruction are implemented.
  - *Management.* A high score occurs if teachers provide children with choices in both teacher-planned activities and during free time, rules and routines are clear but flexible, children are given developmentally appropriate responsibilities, and discipline is brief and non-disruptive (often involving explanations or assisting children in their own social problem solving).
  - *Social climate.* A high score occurs if teachers are warm, responsive, attentive, and respectful of children.
- *Didactic Subscales.*
  - *Instruction.* A high score occurs if the teacher holds children accountable for completing work and for attaining universal rather than individualized standards, lessons focus on discrete skills, the teacher focuses on facts and procedural knowledge, the teacher controls the classroom conversations, and math and literacy instruction

emphasizes learning distinct skills which are not embedded in meaningful contexts and also strongly emphasizes correctness.

- *Management.* A high score occurs if the rules and routines are teacher-determined, children do not select their own activities outside of recess, and the teacher takes responsibility for maintaining order in the classroom, including intervening quickly in social conflict situations.
- *Social climate.* A high score occurs if there are few social interactions among children, little collaborative work among children, and most children work individually or in a teacher-led group. Tasks and expectations are teacher- or curriculum-driven and uniform across all children.

### **Comments**

The undated Coding Manual (Stipek & Byler) indicates that the most recent ECCOM consists of three parts. Part one is 17 scale items rated on a 1 (practices are rarely seen) to 5 (practices predominate) scale to capture classroom instructional practice. Three types of instructional practice are identified: “best practices” based on a social-constructivist theoretical orientation, teacher-controlled/directed, and child-dominated with little teacher direction or control. The scale items were combined to create six subscales:

- *Social Climate.* The degree to which the classroom climate promotes respect for individuals and individual differences.
- *Learning Climate.* The quality of instruction, coherence of lessons, and standards of learning provided by the teacher.
- *Management.* Child responsibility, choice of activities, and management and discipline strategies employed by the teacher.
- *Math Instruction*
- *Literacy Instruction*
- *Classroom Resources.* The breadth of classroom materials provided for the children in the areas of technology, literacy, mathematics, dramatic play, art, gross motor equipment, and real-life objects.

Part two consists of 10 checklists that assess the instructional and multicultural materials available in the classroom. Part three consists of observers’ detailed descriptions of activities and interactions observed over the 3-hour observation period recorded on a Chronology Sheet. Parts two and three should be completed during the observation; part one should be completed at the end of the visit (Stipek & Byler, undated, p. 1).

## **II. Administration of Measure**

### **Who Administers Measure/Training Required**

*Test Administration:* Observations are conducted by a trained observer. The authors recommend that observations be conducted on a typical day, and that the observations begin at the beginning of the day for full-day programs or at the beginning of the

program for less-than-full-day programs. Observations occur over a 3-hour period, and should always include observations of math and literacy instruction.

*Training Required:* Training is required to assure proper use of the instrument. All observers should attend two full days of training and pass a reliability test (i.e., demonstrate 80% reliability on coding with the head trainer or previously certified observer).

### **Setting**

Observations are made in the classroom.

### **Time Needed and Cost**

*Time:* Three hours are needed for observing the classroom, which includes observing math and literacy instruction.

*Cost:* Contact Dr. Deborah Stipek at [stipek@stanford.edu](mailto:stipek@stanford.edu)

## **III. Functioning of Measure**

### **Reliability Information**

#### *Inter-rater Reliability*

Observers independently rated 26 classrooms in pairs. Intraclass correlations were used to calculate reliability. Reliability was high for all subscales (*Constructivist*: instruction, 0.80; management, 0.92; social climate, 0.82; *Didactic*: instruction, 0.80; management, 0.88; social climate, 0.88; all  $p < 0.001$ ) (Stipek & Byler, 2004, p. 387).

#### *Internal Consistency*

Alphas were high for all subscales (*Constructivist*: instruction, 0.73; management, 0.86; social climate, 0.89; *Didactic*: instruction, 0.82; management, 0.87; social climate, 0.91) (Stipek & Byler, 2004, p. 388).

### **Validity Information**

#### *Predictive Validity*

Stipek and Byler (2004) found predictable associations between the ECCOM on the one hand and teachers' self-reported practices, teaching goals, relationships with children, and perceptions of children's ability to be self-directed learners on the other hand. The authors concede that direct observation of child behaviors and skills would be better than relying on teacher report for assessing associations between measures.

Specifically, correlations between the constructivist and didactic subscales of the ECCOM and teachers' self-reported teaching practices revealed the following:

- Teachers who received high scores on the didactic teaching practices scale reported using strategies focused more on basic literacy and math skills ( $r = 0.41$  and  $0.37$ , respectively,  $p < 0.001$ ), were more likely to use skill-based math groups ( $r = 0.20$ ,  $p < 0.05$ ), gave more homework ( $r = 0.28$ ,  $p < 0.001$ ), and planned to retain more children ( $r = 0.29$ ,  $p < 0.001$ ).

- Teachers who received high scores on the constructivist teaching practices scale reported using more inquiry-based math practices ( $r = 0.21, p < 0.05$ ), reported less focus on basic math skills ( $r = -0.19, p < 0.05$ ), expected to retain fewer students ( $r = -0.22, p < 0.01$ ), were less likely to use skill-based math groups ( $r = -0.21, p < 0.05$ ), and gave somewhat less homework ( $r = -0.17, p < 0.10$ ).

Correlations between the constructivist and didactic subscales of the ECCOM and teachers' self-reported teaching goals revealed the following:

- Teachers in classrooms that scored relatively high on the constructivist scale endorsed higher-order thinking as a goal more ( $r = 0.30, p < 0.001$ ) and basic skills less ( $r = -0.22, p < 0.01$ ).
- Teachers in classrooms that scored relatively high on the didactic scale endorsed basic skills as a goal more ( $r = 0.38, p < 0.001$ ) and higher-order thinking and social development less (higher-order thinking:  $r = -0.35, p < 0.001$ ; social development:  $r = -0.21, p < .05$ ).

Correlations between the constructivist and didactic subscales of the ECCOM and teachers' ratings of children's academic skills and self-directed learning revealed the following:

- No relationship between constructivist scores and ratings of children's academic skills and self-directed learning.
- Significant correlation between didactic scores and teachers' ratings of children's math skills ( $r = -0.21, p < 0.05$ ).
- Marginally significant correlation between didactic scores and teachers' ratings of children's self-directed learning ( $r = -0.18, p < 0.10$ ).
- The more didactic the teaching style, the lower teachers rated students on both math skills and self-directed learning.

Correlations between the constructivist and didactic subscales of the ECCOM and teachers' self-reported relationship with a target child in the longitudinal study revealed the following:

- Positive correlation between constructivist score and closeness with target child ( $r = 0.23, p < 0.05$ ).
- Negative correlation between didactic score and closeness with target child ( $r = -0.22, p < .05$ ).

Additionally, the study found strong correlations between the constructivist and didactic subscales of the ECCOM and teachers' educational level. The less education teachers had, the more they engaged in didactic instruction ( $r = -0.29, p < 0.001$ ), and the more education teachers had, the more they engaged in constructivist instruction ( $r = 0.27, p < 0.001$ ).

**Comments**

From the coding manual, it is clear that the ECCOM has been updated. Psychometric information on the current version of the ECCOM is needed.

# The Early Childhood Environment Rating Scale – Extension (ECERS-E)

## I. Background Information

### Author/Source

*Source:* Sylva, K., Siraj-Blatchford, I., & Taggart, B. (2003). *Assessing Quality in the Early Years. Early Childhood Environment Rating Scale Extension (ECERS-E): Four Curricular Subscales*. Stoke on Trent, UK: Trentham Books.

*Publisher:* Trentham Books Limited  
Westview House, 734 London Road  
Stoke on Trent, ST4 5NP  
United Kingdom, UK  
Phone: +44(0) 1782 745567  
E-mail: tb@trentham-books.co.uk

### Purpose of Measure

*As described by authors:*

“The Early Childhood Environment Rating Scale – Extension (ECERS-E) was developed to supplement the ECERS-R by a team of researchers at the Institute of Education, University of London. ECERS-E reflects the English National Early Childhood Curriculum Guidance for the Foundation Stage (QCA 2000) as well as the changing notions of Developmentally Appropriate Practice.

“Four new sub-scales have been devised for the ECERS-E: Literacy, Mathematics, Science, and Diversity. Items in these sub-scales assess the quality of curricular provision, including pedagogy, in these domains aimed at fostering children’s academic development (Sammons et al., 2002)” (Sylva, Siraj-Blatchford, & Taggart, 2003, p. 7).

### Population Measure Developed With

“The ECERS-R has been piloted extensively in a variety of settings for predictive validity (Sylva AERA, 2001). A study of 3,000 children in Britain (The Effective Provision of Pre-School Education (EPPE) Project, Institute of Education, University of London) has shown that assessments of their Early Childhood Settings made on the ECERS-E are better predictors of children’s intellectual and language progress (3-5 years) than were assessments on the same settings using the ECERS-R. This validation came from a national study carried out in England to explore the relationship between the quality of the pre-school measured by the Early Childhood Environment Rating Scale-Revised and the developmental progress of more than 3,000 pre-school children” (Sylva et al., 2003, pp. 7-8).

### **Age Range/Setting Intended For**

The ECERS-E may be used with children 3 through 5 years of age.

### **Ways in which Measure Addresses Diversity**

The ECERS-E was developed in part, because the ECERS-R does little to assess diversity in the childcare setting. The ECERS-E has a “*Diversity*” subscale that assesses: caregivers’ planning for students’ individual needs, gender and equity awareness in the classroom, and race equality as reflected in materials available and caregivers’ practices. The ‘Planning for Individual Learning Needs’ item assesses how well centers plan and provide for the needs of all children in the group (whereas the ECERS-R only considers individual provision for children with identified and diagnosed special needs/disabilities).

### **Key Constructs of Measure**

The ECERS-E supplements the ECERS-R with four new subscales. Items are rated on a 7-point scale from (1) Inadequate to (7) Excellent. Examples are provided at scoring points 1, 3, 5, and 7 for each item. Average subscale scores can also be calculated.

- *Literacy* (6 items)
  - ‘Environment print’: Letters and words
  - Book and literacy areas
  - Adult reading with the children
  - Sounds in words
  - Emergent writing/mark making
  - Talking and Listening
- *Mathematics* (4 items)
  - Counting and the application of counting
  - Reading and writing simple numbers
  - Mathematical Activities: Shape and space (complete 3 or 4)
  - Mathematical Activities: Sorting, matching and comparing (complete 3 or 4)
- *Science* (5 items)
  - Natural materials
  - Areas featuring science/science resources
  - Science Activities: Science processes: non-living (complete 3, 4 or 5)
  - Science Activities: Science processes: living processes and the world around us (complete 3, 4 or 5)
  - Science Activities: Science processes: food preparation (complete 3, 4 or 5)
- *Diversity* (3 items)
  - Planning for individual learning needs
  - Gender equity and awareness
  - Race equality

## II. Administration of Measure

### **Who Administers Measure/Training Required**

*Test Administration:* The ECERS-E can be used as a self-assessment and improvement tool by well-trained observers. However, it is not generally recommended that the ECERS-E be used in isolation. It was designed as an extension to the ECERS-R to cover specific curricular areas in greater depth and not as a stand-alone tool.

*Training Required:* “Before using the ECERS-E scale as either a self-assessment tool or a research instrument, it is strongly recommended that the user has some familiarity with the ECERS-R scale. The Teachers College Press have produced a range of materials to accompany these scales that have been developed for training purposes. These include video extracts and advice on making judgments. These materials can be used for both group and self-instruction. After viewing the training package, users will need to conduct several ‘trial’ observations in order to familiarize themselves with the content of the items included in the scale. This cannot be done in one observation. Using the scales demands a high degree of understanding about not only the content of the scales but about making sense of what is being observed. In many cases information to complete the scales cannot be readily observed and the user may need to question centre staff sensitively about their practices. Any user therefore needs to be familiar with the content of the scales and also to be confident in probing for additional information beyond that which is observed.

Before using the scales, users should note that it is also strongly recommended that the observer have some external validation conducted on their judgments. . .” (Sylva et al., 2003, p. 9).

### **Setting**

The ECERS-E may be used in early childhood classrooms, one room or one group at a time.

### **Time Needed and Cost**

*Time:* Ideally, a half-day of orientation and two guided observations are recommended for ECERS-E training. If training to use the scales to research standards, this should be followed by appropriate checks of inter-rater reliability.

For the actual observations, it is recommended that observers spend at least half a day in the classroom (and preferably longer). The authors note that observers should allow at least 15 minutes to speak with staff and children at the end of the observation to ask any additional questions.

*Cost:* The cost of training and reliability will vary depending on personnel costs. It is estimated that basic training on the ECERS-E might cost in the region of £300-400 per person (roughly \$620-\$820), and basic training on the ECERS-R and E together might cost approximately £500-600 (roughly \$1,000-\$1,200) per person. Training to

research standards (i.e. with appropriate reliability checks) might cost in the region of £1,200 (roughly \$2,500) per person. The scales themselves are priced at £12.99 (roughly \$27) plus delivery costs.<sup>1</sup>

### III. Functioning of Measure

#### **Reliability Information**

##### *Inter-rater reliability*

“Inter-rater reliability on the ECERS-E was calculated from data obtained from the same 25 randomly chosen centers that were also used in the reliability analysis of the ECERS-R (Sylva et al., 1999). The reliability coefficients were calculated separately for separate regions, both percentages of exact agreement between the raters and as weighted kappa coefficient. The percentages of inter-rater agreement range from 88.4 to 97.6 and the kappas range from 0.83 to 0.97. . .” (Sylva et al., 2003, p. 44).

##### *Internal Consistency*

“Factor analysis conducted on the ECERS-E in 141 centers (Sylva et al., 1999) indicated the presence of two factors that together account for about 50% of the total variance in the scores. The first factor is called Curriculum Areas and the second is called Diversity (...)

Cronbach’s alpha was calculated for each factor and for factor 1 was high (0.84) but moderate for factor 2 (0.64). Therefore internal reliability is high only for the first factor, indicating that more factor analyses on the ECERS-E are needed. . .” (Sylva et al., 2003, pp. 44-45).

#### **Validity Information**

##### *Construct Validity*

“In the Sylva et al. study (1999) the relationship between ECERS-R and ECERS-E was (...) examined. The correlation coefficient was 0.78 indicating a strong positive relationship between the two measures. Even though the two instruments focus on different dimensions of preschool settings, they both measure a general construct of ‘quality.’ Therefore, it is expected that centers obtaining a high score on the ECERS-R will also obtain a high score on the ECERS-E (...)

Apart from the high correlation between the ECERS-E and the ECERS-R, construct validity of this new scale has also been established through the strong relationship with the CIS, a scale for assessing the relationships between setting staff and children. Sammons and her colleagues (2002) report significant moderate correlations between the ECERS-E average total and Positive Relationship ( $r = .59$ ) and Detachment ( $r = -.45$ ), two CIS subscales. All correlations were in the expected direction and the correlation coefficients between all the ECERS-E subscales and the CIS subscales ranged from low to moderate, with the positive relationship subscale being moderately associated with all ECERS-E subscales (from .45 to .58)” (Sylva et al., 2003, pp. 44-45).

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<sup>1</sup> The conversion rates used reflect rates as of 11/29/07.

### *Predictive validity*

“The predictive validity of the ECERS-E in relation to cognitive progress was found to be better than the power of ECERS-R in the EPPE study on 3,000 children. Controlling for a large number of child, parent, family, home and preschool characteristics, the ECERS-E average total was significantly associated in a positive direction with pre-reading scores, early number concepts and non-verbal reasoning. The literacy subscale had a significant positive effect both on pre-reading and on early number concepts. In addition, non-verbal reasoning was significantly affected in a positive direction by the math subscale of the ECERS-E, the diversity subscale and almost significantly by the science and environment subscale. The diversity subscale had also a significant positive effect on early number concepts. As for the behavioral outcomes, although just missing significance at .05, trends of the average total ECERS-E were positive on two of the measures of social/behavioral development: independence/concentration and co-operation/conformity (Sammons et al., in press)” (Sylva et al., 2003, p. 45-46).

### **Comments**

A number of items in the mathematics and science subscales are optional. For example, when completing the Science subscale, observers would complete items 1 and 2, and then select one of the ‘science activities’ items (3, 4 or 5). This is because, in the fairly limited time observers will spend in a center, observers would not expect to see evidence of the full range of science activities. The choice of optional item is not generally made until later in the observation; observers should gather evidence for all optional items and then score the one for which there is most evidence (i.e. the one which scores the highest).

### **References**

- Sammons, P., Sylva, K., Melhuish, E., Siraj-Blatchford, I., Taggart, B., & Elliot, K. (2002). *Measuring the impact of pre-school on children’s cognitive progress over the pre-school period. Technical Paper 8a*. London: Institute of Education.
- Sammons, P., Sylva, K., Melhuish, E., Siraj-Blatchford, I., Taggart, B., & Elliot, K. (2003). *Measuring the impact of pre-school on children’s social behavioural development over the pre-school period. Technical Paper 8b*. London: Institute of Education.
- Sylva, K., Siraj-Blatchford, I., Melhuish, E., Sammons, P., Taggart, B., Evans, E., et al. (1999). *Characteristics of the centres in the EPPE sample: Observational profiles. Technical Paper 6*. London: Institute of Education.

# Early Childhood Environment Rating Scale – Revised Edition (ECERS-R)

## Early Childhood Environment Rating Scale – Revised Edition (ECERS-R)

### I. Background Information

#### Author/Source

*Source:* Harms, T., Clifford, R. M., & Cryer, D. (1998). *Early Childhood Environment Rating Scale – Revised Edition*. New York, NY: Teachers College Press.

Harms, T., Clifford, R. M. & Cryer, D. (2005). *Early Childhood Environment Rating Scale – Revised Edition*. New York, NY: Teachers College Press. (Updated with additional notes and a new expanded scoresheet).

*Publisher:* Teachers College Press  
1234 Amsterdam Avenue  
New York, NY 10027

#### Purpose of Measure

*As described by the authors:*

The Early Childhood Environment Rating Scale (ECERS-R) measures global quality in center-based early childhood programs. The ECERS-R can be used as a tool “to see how well a program is meeting children’s needs – to see whether children receive the protection, learning opportunities, and positive relationships they need for successful development” (Cryer, Harms & Riley, 2003, p. x). It can be used by researchers, practitioners, program monitors and early childhood professionals providing technical assistance to programs.

The ECERS-R is a revision of the ECERS originally published in 1980. “The ECERS-R retains the original scale’s broad definition of environment, including those spatial, programmatic, and interpersonal features that directly affect the children and adults in an early childhood setting” (Harms, Clifford, & Cryer, 1998, p. 1).

#### Population Measure Developed With

Information not available in materials reviewed.

#### Age Range/Setting Intended For

The ECERS-R is designed to be used with one room or one group at a time, for children 2 ½ through 5 years of age in center-based programs.

### **Ways in which Measure Addresses Diversity**

- Indoor Space (item # 1) assesses whether the space is accessible to children and adults with disabilities.
- Furniture for Routine Care, Play and Learning (item #2) assesses whether children with disabilities have adaptive furniture that facilitates their inclusion in classroom activities.
- Room Arrangement for Play (item # 4) assesses whether play spaces are accessible to children with disabilities.
- Space for Gross Motor Play (item #7) assesses whether the gross motor space is accessible for children in the group.
- Gross Motor Equipment (item # 8) assesses whether adaptations are made or special equipment is provided for children with disabilities.
- Meals/Snacks (item #10) assesses whether children with disabilities are included at the table with their peers and whether dietary restrictions of families are followed.
- Toileting and Diapering (item # 12) assesses whether provisions are convenient and accessible for children.
- Books and Pictures (item #15) assesses whether there are a variety of books in the classroom and whether they reflect different cultures and abilities
- Music/Movement (item #21) assesses whether music materials are adapted for children with disabilities and whether music from different cultures and in different languages is represented.
- Dramatic Play (item # 24) assesses whether props such as dolls and dress up clothes are provided to represent diversity of cultures and abilities.
- Promoting Acceptance of Diversity (item # 28) assesses whether the materials and activities represent and portray positively different races, cultures, ages, genders and abilities.
- Provisions for children with disabilities (item # 37) assesses whether modifications are made in the environment to allow children with disabilities to participate fully and be integrated into the group; the item also assesses whether teachers interact with parents and specialists to plan for meeting the child’s needs.

### **Key Constructs & Scoring of Measure**

The scale consists of 43 items categorized into seven subscales. Items are scored on a 7-point scale from 1 to 7. Numbered indicators outlining the specific requirements for the item are provided at score points 1 (inadequate), 3 (minimal), 5 (good), and 7 (excellent). The observer begins at level 1 and scores each indicator “yes,” “no,” or “NA.” The final score is determined by the number of indicators that have been “passed.” All indicators must be passed at each level to score at or above that level. Thus, to score a 7 on an item, all indicators must be passed including all of those included under Level 7.

- *Space and Furnishings* (8 items)
  - Indoor space
  - Furniture for routine care, play and learning

- Furnishings for relaxation and comfort
- Room arrangement for play
- Space for privacy
- Child-related display
- Space for gross motor play
- Gross motor equipment
- *Personal Care Routines* (6 items)
  - Greeting/departing
  - Meals/snacks
  - Nap/rest
  - Toileting/diapering
  - Health practices
  - Safety practices
- *Language-Reasoning* (4 items)
  - Books and pictures
  - Encouraging children to communicate
  - Using language to develop reasoning skills
  - Informal use of language
- *Activities* (10 items)
  - Fine Motor
  - Art
  - Music/movement
  - Blocks
  - Sand/water
  - Dramatic play
  - Nature/science
  - Math/number
  - Use of TV, video, and/or computers
  - Promoting acceptance of diversity
- *Interaction* (5 items)
  - Supervision of gross motor activities
  - General supervision of children (other than gross motor)
  - Discipline
  - Staff-child interactions
  - Interactions among children
- *Program Structure* (4 items)
  - Schedule
  - Free play
  - Group time
  - Provisions for children with disabilities
- *Parents and Staff* (6 items)
  - Provision for parents
  - Provisions for personal needs of staff
  - Provisions for professional needs of staff

- Staff interaction and cooperation
- Supervision and evaluation of staff
- Opportunities for professional growth.

### **Comments**

The ECERS-R contains Notes for Clarification on each item that define the terms used in the item and clarify specific scoring requirements for the indicators that comprise the item. There are also Additional Notes for the ECERS-R that provide more detailed information to be considered in scoring and address scoring questions that the authors have answered since publication of the scale. The Additional Notes can be found at the following website: <http://www.fpg.unc.edu/~ecers/> or in the updated 2005 ECERS-R book.

## **II. Administration of Measure**

### **Who Administers Measure/Training Required**

*Test Administration:* The ECERS-R book provides questions for each item that can guide the interview. The authors also provide specific instructions for administering the scale and for conducting the observation in a way that minimizes the impact of the observer on the classroom environment. Because of the large number of indicators that need to be scored, the observer should have the ECERS-R book with her/him while in the classroom and should complete scoring before leaving the facility.

*Training Required:* The authors recommend that observers “participate in a training sequence led by an experienced ECERS-R trainer before using the scale formally. The training sequence for observers who will use the scale for monitoring, evaluation, or research should include at least two practice classroom observations with a small group of observers, followed by inter-rater reliability comparison” (Harms et al., 1998, p. 5). Five-day and three-day trainings are offered by the authors of the scale at the University of North Carolina, Chapel Hill. Observers can purchase additional resources including a video training package (available from Teachers College Press) or the *All About the ECERS-R* book (Cryer, Harms & Clifford, 2003) that offers detailed information and photos that assist the observer in learning the scale or interpreting and scoring what s/he has seen in a classroom. The authors note the use of *All About the ECERS-R* will assist groups of ECERS-R observers in developing reliability and being more consistent with the ECERS-R authors.

### **Setting**

Observations are made in classrooms within center-based settings, including child care centers, preschools, nursery schools and pre-kindergarten programs.

### **Time Needed and Cost**

*Time:* The ECERS-R should be used by a trained observer at a time when children are awake and active. The observation should include “both play/learning times and routines, such as a meal, toileting, and preparation for nap” (Cryer, Harms & Riley, 2003, p. xiv). The authors recommend that at least 2.5 to 3 hours be spent observing

in the classroom and note that spending more than 3 hours observing is preferable. An additional 20 – 30 minutes is needed to ask the teacher questions to help score indicators that were not observed.

*Cost:* All materials are available through Teachers College Press

Manuals  
(ECERS-R, 2005) \$17.95  
(ECERS-R, 1998) \$14.95

Video Training Packages  
1999, VHS \$59.00  
2006, DVD \$59.00

Training Workbook  
1999 \$4.00

### **III. Functioning of Measure**

#### **Reliability Information**

##### *Inter-rater Reliability*

“Overall the ECERS-R is reliable at the indicator and the item level, and at the level of the total score. The percentage of agreement across the full 470 indicators in the scale is 86.1%, with no item having an indicator agreement level below 70%. At the item level, the proportion of agreement was 48% for exact agreement and 71% for agreement within one point.

For the entire scale, the correlations between the two observers were .92 product moment correlation (Pearson) and .87 rank order (Spearman). The interclass correlation was .92” (Harms et al., 1998, p. 2).

##### *Internal Consistency*

The authors “also examined the internal consistency of the scale at the subscale and total score levels. Subscale internal consistencies range from .71 to .88 with a total scale internal consistency of .92” (Harms et al., 1998, p. 2).

<i>Space and Furnishings</i>	.76
<i>Personal Care Routines</i>	.72
<i>Language-Reasoning</i>	.83
<i>Activities</i>	.88
<i>Interaction</i>	.86
<i>Program Structure</i>	.77
<i>Parents and Staff</i>	.71
<i>Total</i>	.92

## **Validity Information**

### *Predictive Validity*

The authors note that, since the original ECERS had demonstrated that “quality as measured by the ECERS has good predictive validity (i.e., Peisner-Feinberg & Burchinal, 1997; Whitebrook, Howes, & Phillips, 1990), the revised version would be expected to maintain that form of validity” (Harms et al., 1998, p.2).

### *Content Validity*

When the scale was revised, the authors conducted focus groups with experts in the field who made suggestions for the revision based on how the ECERS had worked in inclusive and culturally diverse settings. The authors also gathered feedback and suggestions from researchers and other ECERS users that informed the content in the ECERS-R.

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# Early Language & Literacy Classroom Observation (ELLCO) Toolkit

## I. Background Information

### Author/Source

*Source:* Smith, M.W., Dickinson, D. K., Sangeorge, A., Anastasopoulos, L. (2002). *Early Language & Literacy Classroom Observation Toolkit: Research Edition*. Baltimore, MD: Paul H. Brookes Publishing Co.

*Publisher:* Paul H. Brookes Publishing Co.  
Post Office Box 10624  
Baltimore, MD 21285-0624  
Phone: 800-638-3775  
Website: [www.brookespublishing.com](http://www.brookespublishing.com)

### Purpose of Measure

*As described by the authors:*

“The Early Language and Literacy Classroom Observation (ELLCO) Toolkit (...) provides researchers and practitioners with a comprehensive set of observation tools for describing the extent to which classrooms provide children optimal support for their language and literacy development. . .

The ELLCO Toolkit is composed of three interdependent research tools. These parts are the *Literacy Environment Checklist*, completed first as a means to become familiar with the organization and contents of the classroom; the *Classroom Observation and Teacher Interview*, used second to gather objective ratings of the quality of the language and literacy environment experiences in a given classroom; and the *Literacy Activities Rating Scale*, completed last to provide summary information on the nature and duration of literacy-related activities observed” (Smith et al., 2002, p. 1).

### Population Measure Developed With

“The toolkit has been pilot tested and used in several research studies since its initial development, including research conducted in more than 150 preschool classrooms for the Head Start-funded New England Quality Research Center (NEQRC; 1995-2000) and the Literacy Environment Enrichment Project (LEEP; ongoing), both based in the Center for Children & Families at Education Development Center, Inc., in Newton, Massachusetts.

For the LEEP, the Classroom Observation was used as a pre- and post-intervention measurement tool, with ratings being given in the fall and spring in more than 60 classrooms, including intervention and comparison groups. All of the data come from

projects that are concerned with the language and literacy development of children from lower-income families and communities” (Smith et al., 2002, p. 51).

### **Age Range/Setting Intended For**

The ELLCO may be used in Pre-K to third grade.

### **Ways in which Measure Addresses Diversity**

Classroom observation - Item 12 “Recognizing diversity in the classroom” & Item 13 “Facilitating home support for literacy” address diversity by measuring the way in which linguistic and cultural diversity are taken into account in classroom activities and conversations, as well as how teachers build on families’ social and cultural experiences. Item 8 “Presence of books” addresses whether the books in the classroom include representations of various racial and cultural groups.

The teacher interview includes a question that gathers information on the teacher’s views of children from diverse racial, ethnic, and language backgrounds.

### **Key Constructs & Scoring of Measure**

The ELLCO toolkit consists of a *literacy environment checklist*, a *classroom observation* component, a *teacher interview*, and a *literacy activities scale*.

- *The Literacy Environment Checklist* (24 items) is divided into five conceptual areas:
  - *Book Area* (3 items). Arrangement of classroom’s book area
  - *Book Selection* (4 items). Number, variety, and condition of books in classroom
  - *Book Use* (5 items). Placement and accessibility of books in classroom
  - *Writing Materials* (6 items). Variety of writing tools available for children’s use
  - *Writing Around the Room* (6 items). Evidence of writing activities
- *The Classroom Observation* (14 items) is scored from 1 (deficient) to 5 (exemplary) and is divided into:
  - *General Classroom Environment*. Organization of the classroom, contents of the classroom, presence and use of technology, opportunities for child choice and initiative, classroom management strategies, classroom climate
  - *Language, Literacy, and Curriculum*. Oral language facilitation, presence of books, approaches to book reading (pre-k and kindergarten version), reading instruction (school-age version), approaches to children’s writing (pre-k and kindergarten version), writing opportunities and instruction (school-age version), approaches to curriculum integration, recognizing diversity in the classroom, facilitating home support for literacy, approaches to assessment
- *The Teacher Interview*. Consists of questions that help clarify and complete the observation
- *The Literacy Activities Rating Scale*. “Consists of nine questions divided into two categories, Book Reading and Writing. The first three questions gather

information on the number of full-group book reading sessions observed, the number of minutes spent in book reading, and the number of books read. The data for these questions must be recorded in two ways: as amounts (...) and as scores” (Smith et al., 2002, p. 19).

## II. Administration of Measure

### **Who Administers Measure/Training Required**

*Test Administration:* Depending on the purpose of its use, researchers, supervisors, program directors, principals, administrators, and/or teachers may use the ELLCO. It is recommended that potential users have strong background knowledge of children’s language and literacy development, as well as teaching experience in the intended age range.

*Training Required:* A minimum of 9 hours of training is required for appropriate and responsible use.

### **Setting**

The ELLCO may be used in early childhood and early elementary classrooms.

### **Time Needed and Cost**

*Time:* Approximately 1 – 1 ½ hours.

*Cost:* User’s Guide and Toolkit: \$50.00

## III. Functioning of Measure

### **Reliability Information**

#### *Inter-rater Reliability*

- *Literacy Environment Checklist:* When observers have been trained and supervised appropriately, the average inter-rater reliability achieved was 88%.
- *Classroom Observation:* When observers are trained and supervised appropriately, inter-rater reliabilities of 90% and better have been consistently achieved.
- *Literacy Activities Scale:* When observers have been trained and supervised appropriately, the average inter-rater reliability achieved was 81%.

#### *Internal Consistency*

- *Literacy Environment Checklist:* “Cronbach’s alpha of .84 for the *Total* score shows good internal consistency. All item-total correlations were moderate to high ( $r = .15$  to  $r = .55$ ). Cronbach’s alpha of .73 for the *Books* subtotal shows good internal consistency for this composite. All item-total correlations were moderate ( $r = .21$  to  $r = .54$ ) with the exception of Item 1 in the Book Area section (“Is an area set aside just for book reading?”), which exhibited a correlation of .16. Cronbach’s alpha for the *Writing* subtotal was .75, also indicating somewhat low but still acceptable internal consistency. Item-total

correlations ranged from a low of .21 for Item 15 in the Writing Materials section (“Are there templates or tools to help form letters?”) to a high of .59 for Item 21 in the Writing Around the Room section (“How many varieties of children’s writing are on display in the classroom?”) (Smith et al., 2002, p. 53-54).

- *Classroom Observation*: “Cronbach’s alpha of .83 for the *General Classroom Environment* shows good internal consistency for this composite. All of the item-total correlations were high – with correlation coefficients ranging from .60 for Item 1, Organization of the Classroom, to .75 for Item 6, Classroom Climate – with the exception of Item 2, Contents of the Classroom. This item had the lowest item-total correlation, which was nonetheless a moderate correlation ( $r = .53$ ). The internal consistency of the *Language, Literacy, and Curriculum* composite is very good, with an alpha of .86. All of the item-total correlations were moderate to high, ranging from .55 for Item 8, Presence of Books, to .65 for Item 13, Facilitating Home Support for Literacy. Cronbach’s alpha of .90 also shows very good internal consistency for all items combined on the Classroom Observation. All of the item-total correlations for the *Classroom Observation Total* were moderate to high ( $r = .39$  to  $r = .68$ ) (Smith et al., 2002, p. 57-58).
- *Literacy Activities Rating Scale*: “Cronbach’s alpha of .66 for the *Total* score shows somewhat low but acceptable internal consistency for this measure. Item-total correlations ranged from a low of .17 for Item 9 (“Did an adult model writing?”) to a high of .49 for Item 1 (“How many full-group book reading sessions did you observe?”). Cronbach’s alpha of .92 for the *Full-Group Book Reading* subtotal shows excellent internal consistency for this composite. All item-total correlations were high ( $r = .79$  to  $r = .88$ ). The Cronbach’s alpha for the Writing subtotal was .73, indicating good internal consistency. Item-total correlations were moderate to high, ranging from a low of .37 for Item 9 (“Did an adult model writing?”) to a high of .64 for Item 7 (“Did you see children attempting to write letters or words?”). Given the stronger psychometric properties of the two subscales, it is recommended to use the scores on the distinct subscales of the Literacy Activities Rating Scale instead of the total score” (Smith et al., 2002, p. 62-63).

### **Validity Information**

#### *Criterion Validity*

- Classroom Observation: “The Classroom Observation has been used in correlational research and employed in hierarchical linear modeling designed to determine the contributions of classroom quality to children’s receptive vocabulary (Peabody Picture Vocabulary Test-Third Edition; Dunn & Dunn, 1997) and early literacy scores (Profile of Early Literacy Development; Dickinson & Chaney, 1998) (...) Level-one models examining between-group variability took into account variables such as home language (...), gender, and age. The variance in scores that was not accounted for by background factors (15% for vocabulary, 20% for literacy) was attributed to classroom factors. [The developers’] models examining sources of classroom-related

variance found that scores on the Classroom Observation accounted for 80% of the between-classroom variance in vocabulary and 67% of the between-classroom variance in early literacy (Dickinson et al., 2000)” (Smith et al., 2002, p. 60-61).

#### *Concurrent Validity*

- *Classroom Observation*: Moderate correlations for three Classroom Observation variables with scores on the Assessment Profile for Early Childhood Programs’ (Abbott-Shim & Sibley, 1998) Learning Environment subscale:
  - General Classroom Environment subtotal:  $r = .41$
  - Language, Literacy, and Curriculum subtotal:  $r = .31$
  - Classroom Observation Subtotal:  $r = .44$

No relationship was found with the Assessment Profile for Early Childhood Programs’ Scheduling subscale (this also “provides divergent validity because the Classroom Observation was developed to tap a construct that is distinct from that examined by the Scheduling subscale” (Smith et al., 2002, p. 60).)

#### *Content Validity*

Experts in the field of early literacy contributed to both the development and the review of the ELLCO Toolkit. Furthermore, all of elements of the ELLCO are aligned with findings presented in *Preventing Reading Difficulties in Young Children* (Snow et al., 1998) and *Learning to Read and Write: Developmentally Appropriate Practices for Young Children* (International Reading Association [IRA] & National Association for the Education of Young Children [NAEYC], 1998).

#### **Comments**

A revised version of the ELLCO will be available in early 2008 with a preschool instrument and a separate, more robust measure for use in K-3 classrooms.

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## Early Literacy Observation Tool (E-LOT)

### I. Background Information

#### Author/Source

*Source:* Grehan, A. W., & Smith, L. J. (2004). *The Early Literacy Observation Tool*. Memphis, TN: The University of Memphis, Center for Research in Educational Policy.

*Publisher:* Education Innovations, LLC.

#### Purpose of Measure

*As described by the authors:*

The Early Literacy Observation Tool (E-LOT), a successor of the Literacy Observation Tool (LOT), is an observation instrument designed to measure research-based instructional practices, student activities, and environmental settings in early childhood classrooms where teachers are engaged in teaching the foundations of reading and other literacy processes. “The E-LOT was designed to assist schools in evaluating the effectiveness of teacher implementation of research-based teaching strategies. The E-LOT has been aligned to the National Reading Panel and National Research Council findings and captures all essential components of the Early Reading First program” (Tennessee Reading First Formative Evaluation, 2006, p. 27).

#### Population Measure Developed With

The E-LOT was piloted in a rural school district of Tennessee as part of an Early Reading First evaluation. Subsequently, the E-LOT has been used in both rural and urban districts and with at-risk preschool and kindergarten populations in school districts across the nation.

#### Age Range/Setting Intended For

The E-LOT is used to evaluate early childhood classrooms, particularly in preschool and kindergarten. The E-LOT was derived from and aligns closely with the LOT (Smith, Ross, & Grehan, 2002), an instrument used to evaluate similar research-based literacy processes and practices in elementary school classrooms. The LOT has been employed and validated in multiple research and evaluation studies of Reading First and other literacy programs nationally. More information about the LOT is available from the authors.

#### Ways in which Measure Addresses Diversity

The instrument is designed to capture research-based instructional practices, student activities, and environmental settings regardless of context, culture, and ethnicity. Therefore, it is not biased or geared to particular cultures or subgroupings of children or teachers.

### **Key Constructs of Measure**

During literacy-related instruction, observers score the degree to which six components are occurring in the classroom on a 5-point scale from 0 – “Not observed” to 4 – “Extensively observed” on the *E-LOT Notes Form*. The E-LOT Notes Form is completed for every 10 minutes of observed instruction (8-10 total observations are completed over the course of the observation period). The notes forms are then synthesized and summarized on the *E-LOT Data Summary Form*. The observations and a report summary are organized around the following six categories:

- Instructional Orientation
- Instructional Components
  - Concepts of Print
  - Alphabetic and Phonological Awareness
  - Fluency
  - Vocabulary and Oral Language Development
  - Development of Cognition and Text Comprehension
  - Emergent Writing
- Assessment
- Learning Environment (Scored dichotomously as either 1 “use” or 2 “non-use”)
- Visible Print Environment
- Materials Used

“The subcategories of Instructional Components include the essential components of early reading identified by the National Research Council and the National Reading Panel as important in achieving effective early literacy instruction” (Tennessee Reading First Formative Evaluation, 2006, p. 28).

## **II. Administration of Measure**

### **Who Administers Measure/Training Required**

*Test Administration:* The E-LOT must be administered by trained observers.

*Training Required:* There is a three-step training process to use the E-LOT. First, observers must read a manual that describes and defines the strategies that are to be noted during the E-LOT observation. Second, the observer attends a formal training to ensure consistent observation and coding. Finally, each observer practices using the E-LOT and completes an inter-rater reliability consensus rating process with another observer of the same classes to ensure consistency (Tennessee Reading First Formative Evaluation, 2006).

### **Time Needed and Cost**

*Time:* One *E-LOT Notes Form* is completed during a 10-minute segment of teaching focused on early literacy development activities and learning centers. A minimum of eight E-LOT Notes Forms should be completed in order to ensure reliability (i.e., at least 80 minutes of literacy instruction is observed to complete a total observation).

After completing the observations, the E-LOT Notes Forms should be used as a reference for completing the *E-LOT Data Summary Form*. The summary process requires approximately 10 minutes for completion.

*Cost:* Training – “The fees for training vary depending on a variety of factors including the number of people to be trained, how many tools are covered in the training (the E-LOT may be used with other standard or custom companion tools), and what role this tool may play in a larger research project being led by the CREP organization. Given these parameters, the standard fee is \$2,000 to train up to 40 participants + \$20 per participant for training materials including a manual + travel expenses for one trainer.

Fees paid to the site researcher – CREP personnel can conduct the actual observations using trained staff for around \$300 + travel per observation. (If CREP conducts the observations, there is no fee for training). The options most sponsors choose is for CREP to train their staff who then conduct the observations as part of their regular responsibilities or the sponsor may hire retired teachers in their own community.

Fee for processing the results – If observers record the observation data in our online system, CREP will process the results of the E-LOT for \$350 per school. This includes the cost for one annual report of results. The fee will increase by \$100 for the Center to process paper scantron sheets. Each data summary report is an easy to use document that includes tables and results of each observation for each strategy observed, but does not include any custom narrative analysis or recommendations. This additional analysis is, however, available for an additional fee.

The E-LOT, as all of our tools, is available without fee to students completing a dissertation so long as they are able to attend one of the training sessions, but our agreement with the University otherwise restricts the use of the E-LOT to only those who agree to the above fee for processing the results. In addition to helping support our research center from the fees collected, this also ensures we continue to gather valuable research data from schools across the nation, all of which is included in our national norms. “The University will occasionally approve a site-license fee of approximately \$100 per site where the district processes the data and creates their own report” (personal communication with Dr. Hurst, October 17, 2007).

### **III. Functioning of Measure**

#### **Reliability Information**

The E-LOT was derived from the LOT (Smith, Ross, & Grehan, 2002), which has been employed and validated in multiple research and evaluation studies of Reading First and other literacy programs nationally. A formal reliability study of LOT,

conducted by Sterbinsky and Ross (2003) using Generalizability Theory, yielded mean phi coefficients across all LOT items of .75 for five observations and .82 for eight observations. Because the E-LOT overlaps extensively with LOT, including approximately 75 percent of the identical target categories, it is expected that E-LOT will produce comparably high reliability indices.

In an inter-rater reliability analysis of the E-LOT administered by 30 trained observers working in pairs at 15 sites, levels of agreement (as measured by the Kappa statistic) between raters overall was between .66 and .97. The intraclass correlation coefficients (ICC) revealed that one of the 83 E-LOT items, “Reviews vocabulary, including environmental print and word walls” did not have a positive ICC, indicating that there was discrepancy among raters on this item. There was “low” agreement on the item, “Monitors for opportunities to scaffold children’s learning.” The remainder of the items had ICC values ranging from .52 – 1.00 (Huang, Franceschini, & Ross, 2007).

### **Validity Information**

#### *Criterion Validity*

Descriptive results examining the relationship between the E-LOT and student achievement suggests a positive correlation between the scores on the observation measure and student achievement. Additionally, these descriptive results suggest that the E-LOT converges with the Classroom Observation component of the Early Language and Literacy Classroom Observation (ELLCO).

#### *Construct Validity*

The E-LOT has been aligned to the National Reading Panel and National Research Council findings and captures all essential components of the Early Reading First program” (Tennessee Reading First Formative Evaluation, 2006, p. 27).

*Content Validity:* The E-LOT is a successor of the LOT and the two instruments overlap extensively with approximately 75 percent of the target categories identical. The LOT was assessed for content validity during the developmental phase by a panel of experts, including researchers and practitioners drawn from the University of Memphis, the Memphis city schools, and the state Departments of Education in Tennessee, Louisiana, and Illinois.

### **References**

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# Emlen Scales: A Packet of Scales for Measuring the Quality of Child Care From a Parent's Point of View

## I. Background Information

### Author/Source

*Source:* Emlen, A. C., Koren, P. E., & Schultze, K. H., (2000). *A packet of scales for measuring quality of child care from a parent's point of view.* Portland, OR: Regional Research Institute for Human Services, Portland State University. <http://www.ssw.pdx.edu/focus/emlen/pgOregon.php> & <http://www.hhs.oregonstate.edu/familypolicy/occrp/publications.html>

### Purpose of Measure

*As described by the authors:*

The scales measure parent perceptions of the quality of their child-care arrangements. The scales are not measures of satisfaction, but provide an implicit evaluation of specific, descriptive characteristics of the care a child receives. The scales are designed to measure a parent's view of various aspects of that care, such as the warmth and interest in the child or the skill of the caregiver. The vehicle for collecting the quality data is a survey questionnaire designed to understand the work, family, and child-care context of parents' child-care decisions.

### Population Measure Developed With

By the end of July 1996, the original survey had produced a composite sample of 862 parent questionnaires from more than a dozen sources inclusive of a wide range of incomes, types of jobs, and types of child care. The largest sub-sample was 264 US Bank employees who had children under age 13. Two other corporate samples were Boeing Aircraft employees using referral and counseling services and Mentor Graphics parents using an on-site child development center outstanding in quality. Members of the Association of Flight Attendants, AFL-CIO, who were living in Oregon and flying for three major airlines, provided a sample of parents with demanding work schedules, as compared to regular shifts. In addition to parents who found child care informally on their own, the study included a sample of parents who had turned to resource and referral agencies for help in finding care. Among low-income parents, samples included families receiving public child-care assistance and those who did not. All levels of household income were represented—31% with less than \$20,000, and 20% with \$75,000 or more. The amount families spent monthly on child care for all children, as a percentage of household income, provided a measure of affordability: the median spent was 9%, the middle half spent between 16% and 5%, with 29% spent by those least able to afford it.

Eight percent of the sample had a child with an emotional or behavioral problem requiring special attention. Though the overall sample consisted of current, active arrangements, many parents were facing a variety of challenges that contributed to a range in reported levels of quality of care. Two samples were selected for their

recognized high quality, and, at the other extreme, were parents who had lodged complaints about care they were using.

Sixty-nine percent of the sample children were under the age of 5, with a median age of 3. Among types of child care, 89% of the parents were using paid care—38% in family day care, 35% in centers, and 8% with a grandparent. Also in the sample was care in the child's home by caregivers who were unrelated. The children were in care a median of 30 hours per week, the middle half in care between 19 and 40 hours. The middle 50% of arrangements had already lasted from 5 to 24 months—the middle 80% from 2 to 36 months.

The sample came largely from Oregon—746 (87%), 58 from Washington, 44 from California, and 14 from 8 other states. The composite sample of 862 was dispersed across 253 zip code areas.

Kyle Matchell and the Metropolitan Council on Child Care, in Kansas City, carried out a second survey in July 1997, and provided the investigators with the coded data to analyze. This sample offered an opportunity to discover if the original scales could be replicated. All parents in this sample (N=240) found their child care through a community-based referral service—nearly three times as many in family homes as in centers, and 75 percent of the children were under 3 years of age (Emlen et al., 2000, p. 48). The scales resulting from that survey were strikingly similar to the original scales, and equally, or more, reliable (p. 41).

#### **Age Range/Setting Intended For**

The instrument can be used for children of all ages, in any type of child care arrangement.

#### **Ways in which Measure Addresses Diversity**

In Emlen's study, no attempt was made to classify parents in categories of racial or cultural diversity, but a few scales did touch on the fit between the diversity of children and the diversity of child care (Emlen et al., 2000, pp. 39-40). See Appendix at the end of this profile.

*Parent's perception of caregiver's cultural sensitivity.* One measure was designed to measure the caregiver's respect for individual differences, yet in a way that could be applicable to any child-care situation or cultural difference.

*Disability and special needs.* Similarly, another scale measured the extent to which a child may need more attention and caregiving effort than most children. These special needs may be associated with a disability. Parents who reported, "Yes, my child has an emotional or behavioral problem that requires special attention," were 20 times more likely than other parents of children over 3 to say, "I've had caregivers who quit or let my child go because of behavioral problems" (Emlen and Wait, 1987).

### **Key Constructs & Scoring of Measure**

There are eight scales representing conceptually and empirically distinct facets of quality of care:

- *Warmth and interest in my child* (10 items)
- *Rich activities and environment* (5 items)
- *Skilled caregiver* (8 items)
- *Talk and share information* (3 items)
- *Caregiver accepting and supportive* (4 items)
- *Child feels safe and secure* (8 items)
- *Child getting along well socially* (2 items)
- *High risk care* (11 items)

Plus a composite scale:

- *Parent scale measuring quality of child care* (15 items)

*The data and method of scale construction:*

The parent scales consist of evaluative statements that are simple, specific, and descriptive of the child-care experience of that parent's youngest child. Parents responded by rating how often that statement described their experience—never, rarely, sometimes, often, or always.

Based on a factor analysis of parent responses to 55 such statements, those item responses that were most highly correlated, and had a similar underlying meaning in common, were grouped together as distinguishable aspects of child-care quality from a parent's point of view. Those are the scales named above.

## **II. Administration of Measure**

### **Who Administers Measure/Training Required**

*Test Administration:* Parents self-administer the questionnaire.

*Training Required:* No training required. Rated reading level: 7<sup>th</sup> grade

### **Setting**

The instrument is appropriate for any type of care arrangement.

### **Time Needed and Cost**

*Time:* Depends on total number of items in questionnaire. For quality items alone, allow 10 minutes.

*Cost:* To estimate cost, users should consider the following: sample size, printing, postage for mailing questionnaire and returns (unless distributed by a company or organization), double data entry and verification, preparation of data and frequencies, data analysis, and reporting.

### III. Functioning of Measure

#### **Reliability Information**

##### *Inter-rater Reliability*

There were no raters other than the parent, and no repeat measures by the same individual. Reliability was determined through analysis of internal consistency.

##### *Internal Consistency*

“Factor analyses confirmed the ability of parents to discriminate levels of quality when making specific observations and judgments about their current child care” (Emlen, 2000, p. 25). This analysis differentiated distinct aspects of child-care quality and became the basis for creating a coherent set of measurement scales. The reliability of these scales was determined by the calculation of Chronbach's Alpha, which measures the internal consistency of the items within the scale. The following Cronbach's alpha coefficients were reported:

- *Warmth and interest in my child* = .93
- *Rich activities and environment* = .87
- *Skilled caregiver* = .88
- *Talk and share information* = .72
- *Caregiver accepting and supportive* = .70
- *Child feels safe and secure* = .86
- *Child getting along well socially* = .80
- *High risk care* = .73

The Kansas City replication gave additional confidence in the stability of the measures across samples.

#### **Validity Information**

##### *Criterion Validity*

Since the parent scales contained specific items that made no mention of the word “quality,” it was necessary to verify that such scales were predictive of parents' judgments made explicitly about the overall “quality” of their child's care. Therefore, later in the questionnaire, parents were asked: *All things considered, how would you grade the quality of the care your child is in? (Perfect, Excellent, Good, Fair, Poor, Bad, or Awful)*. The 15-item scale's correlation to the general rating was .69. There was evidence that parents distinguish between *quality* and *satisfaction*, which tends to take circumstances into account, in addition to issues of quality. Thus, 84 percent said, *If I had it to do over, I would choose this care again*, but only 68% said, *The care I have is just what my child needs*.

##### *Construct Validity*

Evidence confirmed that, in expressing their idea of quality and in making their evaluative judgments, parents were not confusing or confounding quality with something else—with some other key concept, such as flexibility. In a finding documenting construct validity, parents who rated their child care high in quality also

rated their caregivers low on *caregiver flexibility*. They clearly discriminated between quality and the flexibility provided by their child-care provider.

The coherence of the findings lend support to the validity of the constructs and their measures. Those parents who were able to take advantage of the less flexible child care did so because they enjoyed high flexibility at work and within the family. The net amount of flexibility they were able to glean from any and all sources was indeed predictive of the quality of care they reported. By contrast, parents of children with an emotional or behavioral problem reported low flexibility from all sources—at work, at home, and at child care—and they reported significantly lower quality of care on all of the quality scales, as compared to other parents of children 3 years of age or older (Emlen and Weit, 1997).

Any scale measuring parent-reported quality of care was treated as the dependent variable: Emlen and colleagues (1999 and 2000) report that affordability, accessibility, flexibility, and other variables measuring child-care needs together accounted for half of the variance of quality of care measured by the 15-item scale. To assure the validity of such a prediction, an effort was made to keep the various constructs and their measures distinct. However, an accessibility measure, like *I found a caregiver who shares my values*, may be akin to quality, even though it was supposed to describe successful behavior in the child-care market.

#### *Concurrent Validity*

Two sub-samples afforded an opportunity to run a classic test of the validity of parent judgments and the quality-of-care scales based on independent criteria. The findings supported the validity of the measures. Quality-of-care scale scores were significantly higher for parents using an on-site child development center that was widely regarded as of outstanding quality—Mentor Graphic Corporation—and lower for all other center-care users in the study. Also, a similar discriminating pattern was found for users of a family day care home generally acknowledged to be outstanding. In both of these comparative analyses, parents observed and correctly discriminated the level of quality of the program their child was experiencing (Emlen et al., 2000, p. 12).

#### *Content Validity*

Content validity was investigated by examining whether scores on the 15-item quality-of-care scale were statistically independent of a number of other variables: age of child, type of child care, early or late in the duration of the arrangement, the whole range in level of quality, parents' ability to read and understand the questions, and parents in all walks of life as measured by household income.

Items such as *My child feels safe and secure* can be answered for a child of any age; so, in box-plot analyses, the level and variation of reported quality did not differ significantly for infants, toddlers, or preschoolers through age 6. Reported quality faded somewhat for school children, but the overall correlation was fairly low:  $r=.24$ .

The instrument proved applicable for any type of care for two reasons. First, similar averages and variation in quality were found in all types of care – centers, family day care, paid relative care, or paid in-home care by unrelated persons (Emlen, 1998; 1999). Also, three separate factor analysis were conducted: one for parents using center care, one for those using family day care, and one for all types of care. The factor structures were similar, producing roughly the same scales; so we were able to use the same scales for all types of care.

The scales were developed on a sample of widely distributed durations at point of interview—90 percent between 2 months and 3 years. The spread of quality scores was wide at all stages. Even though a sample of current arrangements will produce longer durations and higher quality on average than samples of either newly begun or terminated arrangements, many quality items were discriminating at all levels, while some items worked better at either the low end, middle, or upper level of quality.

The quality-of-care scales proved equally applicable to all income levels. Closely similar averages and variation were found at every level of household income.

The scales reported in this study covered a collection of topics that child-care professionals, parents, and the public probably would acknowledge as important aspects of child-care quality; however, no systematic test of that assumption was made. A wider pool of quality items could change the picture, but, in concept and measurement, an effort was made to differentiate quality from the other variables assumed to affect choice of care.

### **Comments**

This research was funded by a grant from the Child Care Bureau, Administration for Children and Families, Department of Health and Human Services, with support also from Portland State University and other participating institutions within the Oregon Child Care Research Partnership.

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<http://www.ssw.pdx.edu/focus/emlen/pgOregon.php> &  
<http://www.hhs.oregonstate.edu/familypolicy/occrp/publications.html>
- Emlen, A. C. (1998). "From a Parent's Point of View: Flexibility, Income, and Quality of Care" Background paper for SEED Consortium Conference: Child Care in the New Policy Context. Session: New Perspectives on Child Care Quality. NIH Campus, Bethesda, MD, April 30 and May 1, 2999.  
<http://www.ssw.pdx.edu/focus/emlen/pgOregon.php/pdfBethesda1988.pdf>



**Scales Measuring Aspects of Child-Care Quality**

(From the Kansas City Replication (N=240) (Emlen et al., 2000)

**Caregiver's warmth and interest in my child (6 items) Alpha=.92**

*My caregiver is happy to see my child.*

*The caregiver is warm and affectionate toward my child.*

*My child is treated with respect.*

*The caregiver takes an interest in my child.*

*My child gets a lot of individual attention.*

*The caregiver seems happy and content.*

**Rich environment and activities (5 items) Alpha=.91**

*There are lots of creative activities going on.*

*It's an interesting place for my child.*

*There are plenty of toys, books, pictures, and music for my child.*

*In care, my child has many natural learning experiences.*

*The caregiver provides activities that are just right for my child.*

**Caregiver's skill (3 items) Alpha=.80**

*The caregiver changes activities in response to my child's needs.*

*My caregiver knows a lot about children and their needs.*

*My caregiver is open to new information and learning.*

**Supportive parent-caregiver relationship (6 items) Alpha=.84**

*My caregiver and I share information.*

*We've talked about how to deal with problems that might arise.*

*My caregiver is supportive of me as a parent.*

*My caregiver accepts the way I want to raise my child.*

*I'm free to drop in whenever I wish.*

*I feel welcomed by the caregiver.*

**Child feels happy, safe, and secure (6 items) Alpha=.85**

*My child feels safe and secure.*

*My child has been happy in this arrangement.*

*My child has been irritable since being in this arrangement. (-)*

*My child feels accepted by the caregiver.*

*My child likes the caregiver.*

*My child feels isolated and alone in care. (-)*

**Risks to health, safety, and well-being (10 items) Alpha=.85**

*My child is safe with this caregiver. (-)*

*There are too many children being cared for at the same time.*

*The caregiver needs more help with the children.*

*The caregiver gets impatient with my child.*

*The children seem out of control.*

*The conditions are unsanitary.*

*The children watch too much TV.*

*It's a healthy place for my child. (-)*  
*I worry about bad things happening to my child in care.*  
*Dangerous things are kept out of reach. (-)*

**Child getting along well socially (from the original sample, N=862) (2 items) Alpha=.80**

*My child gets along well with the other children in care.*  
*My child likes the other children.*

**15-Item Parent Scale Measuring Quality of Child Care, N=862. Alpha=.91**

*My child feels safe and secure in care.*  
*The caregiver is warm and affectionate toward my child.*  
*It's a healthy place for my child.*  
*My child is treated with respect.*  
*My child is safe with this caregiver.*  
*My child gets a lot of individual attention.*  
*My caregiver and I share information.*  
*My caregiver is open to new information and learning.*  
*My caregiver shows she (he) knows a lot about children and their needs.*  
*The caregiver handles discipline matters easily without being harsh.*  
*My child likes the caregiver.*  
*My caregiver is supportive of me as a parent.*  
*There are a lot of creative activities going on.*  
*It's an interesting place for my child.*  
*My caregiver is happy to see my child.*

**Scales Measuring Sources of Parent's Flexibility**

**Work Flexibility (5 items) Alpha=.74**

*Our work schedule keeps changing. (-)*  
*My shift and work schedule cause extra stress for me and my child. (-)*  
*Where I work it's difficult to deal with child care problems during working hours. (-)*  
*My life is hectic. (-)*  
*I find it difficult to balance work and family. (-)*

**Family Flexibility (4 items) Alpha=.78**

*I have someone I can share home and care responsibilities with.*  
*I'm on my own in raising my child. (-)*  
*Do you have a spouse or partner who is employed?*  
1. No spouse or partner.                      2. Spouse or partner employed full time.  
3. Spouse or partner employed part time.                      4. Spouse not employed.  
*In your family, who takes responsibility for child-care arrangements?*  
1. I do completely.    2. Mostly I do.    3. Equally shared with spouse or other.  
4. Mostly spouse or other does.                      5. Spouse or other does completely.

**Caregiver Flexibility (4 items) Alpha=.81**

*My caregiver understands my job and what goes on for me at work.*

*My caregiver is willing to work with me about my schedule.*  
*I rely on my caregiver to be flexible about my hours.*  
*I can count on my caregiver when I can't be there.*

**Scales Measuring Accessibility of Child Care, Options, and Choice**

**Found a caregiver who shares my values (3 items)**

**Alpha=.80**

*I found a caregiver who shares my values.*  
*I like the way my caregiver views the world.*  
*My caregiver and I see eye to eye on most things.*

**Child-care options in the neighborhood (5 items)**

**Alpha=.77**

*I've had difficulty finding the child care I want. (-)*  
*There are good choices for child care where I live.*  
*In my neighborhood child care is hard to find. (-)*  
*When I made this arrangement, I had more than one option.*  
*In choosing child care, I've felt I had to take whatever I could get. (-)*

**Transportation a problem (4 items)**

**Alpha=.61**

*My child care is too far from home. (-)*  
*Transportation is a big problem for me. (-)*  
*Getting to work is a long commute. (-)*  
*Getting my child places is difficult for me. (-)*

**Scales Measuring Perceived Affordability**

**Difficulty paying for child care (3 items)**

**Alpha=.78**

*I have difficulty paying for child care.*  
*I worry about making ends meet.*  
*The cost of child care prevents me from getting the kind I want.*

**Have some choice about how much to work (2 items)**

**Alpha=.84**

*I have some choice about whether to work or how much.*  
*I can (or could) afford to work part time.*

# Family Child Care Environment Rating Scale-Revised Edition (FCCERS-R)

## I. Background Information

### Author/Source

*Source:* Harms, T., Cryer, D., & Clifford, R.M. (2007). *Family Child Care Environment Rating Scale – Revised Edition (FCCERS-R)*. New York, NY: Teachers College Press.

*Publisher:* Teachers College Press  
1234 Amsterdam Avenue  
New York, NY 10027

### Purpose of Measure

*As described by the authors:*

“The FCCERS-R is a thorough revision of the original Family Day Care Scale (FDCRS, Harms & Clifford, 1989). The FCCERS-R retains the original broad definition of environment, including organization of space, interaction, activities, schedule and provisions for parents and provider. The FCCERS-R contains items to assess provisions in the environment for a wide age range and to ensure protection of children’s health and safety, appropriate stimulation through language and activities, and warm, supportive interaction” (Harms, Cryer, & Clifford, 2007, p. 1).

### Population Measure Developed With

“Eight trained observers conducted paired observations of 45 family child care homes. Each observer scored the items independently. A subgroup of 20 of the original family child care homes was selected for a second observation by one of the original observers in that setting approximately 14 weeks after the first observation. Using the North Carolina Division of Child Development listing of family child care homes, an unbiased stratified sample of homes was selected for participation in the field testing. The homes were from six counties in central North Carolina in the Research Triangle and Piedmont Triad areas of the state. These counties were chosen to provide a range of urban and rural settings” (Harms et al., 2007, p. 3).

### Age Range/Setting Intended For

“The FCCERS-R is designed to be used with one family child care home at a time, for children from birth through elementary school. If the family child care home is broken into separate groups with different providers and children rarely come together, a separate observation is required for each age group” (Harms et al., 2007, p. 7).

### **Ways in which Measure Addresses Diversity**

“Using input from focus groups that were convened during the revisions of the *Early Childhood Environment Rating Scale* (ECERS) and *Infant/Toddler Environment Rating Scale* (ITERS), we were able to consider what was needed to make the revised FCCERS-R more sensitive to issues of inclusions and diversity” (Harms et al., 2007, p. 1).

- Indoor space (Item #1) has two indicators that assess whether space for children is accessible to children and adults with disabilities.
- Arrangement for indoor space (Item #4) has an indicator that assesses whether most spaces used for child care are accessible to children with disabilities.
- Promoting acceptance of diversity (Item #24) assesses whether there is acceptance of races, cultures, ages, gender and abilities through materials and activities promoting understanding of diversity.
- Provisions for children with disabilities (item # 34) assesses whether: modifications are made in the environment, providers are interacting with parents, and providers are integrating children with disabilities into the group.

### **Key Constructs & Scoring of Measure**

Thirty-eight items of family child care quality are categorized into seven subscales, each with several items. Items are rated on a 7-point scale from 1 (inadequate) to 7 (excellent). Descriptions are provided at score points 1, 3, 5, and 7.

- *Space and Furnishings* (6 items)
  - Indoor space used for child care
  - Furniture for routine care, play and learning
  - Provision for relaxation and comfort
  - Arrangement of indoor space for child care
  - Display for children
  - Space for privacy
- *Personal Care Routines* (6 items)
  - Greeting/departing
  - Nap/rest
  - Meals/snacks
  - Diapering/toileting
  - Health practices
  - Safety practices
- *Listening and Talking* (3 items)
  - Helping children understand language
  - Helping children use language
  - Using books
- *Activities* (11 items)
  - Fine motor
  - Art
  - Music and movement
  - Blocks

- Dramatic play
- Math/number
- Nature/science
- Sand and water play
- Promoting acceptance of diversity
- Use of TV, video, and/or computer
- Active physical play
- *Interaction* (4 items)
  - Supervision of play and learning
  - Provider-child interaction
  - Discipline
  - Interactions among children
- *Program Structure* (4 items)
  - Schedule
  - Free play
  - Group time
  - Provisions for children with disabilities
- *Parents and Provider* (4 items)
  - Provisions for parents
  - Balancing personal and caregiving responsibilities
  - Opportunities for professional growth
  - Provisions for professional needs

## **II. Administration of Measure**

### **Who Administers Measure/Training Required**

*Test Administration:* Trained observers conduct the observations.

“A valid observation requires the presence of a representative sample of the children enrolled. It is recommended that during the observation preschoolers and infant/toddlers be present if children from those age groups are enrolled, and that at least three quarters of the children observed allowed to attend at any one time are present” (Harms et al., 2007, p. 7).

*Training Required:* “A video training package for the FCCERS-R is available from Teachers College Press for use in self-instruction or as part of group training. It is preferable to participate in a training sequence led by an experienced group leader, followed by inter-rater agreement comparison. Additional field practice observations may be needed to reach the desired level of agreement, or to develop reliability within a group” (Harms et al., 2007, p. 7).

### **Setting**

Observations are made in the family child care home.

### **Time Needed and Cost**

*Time:* “A block of 3 hours should be set aside for observation and rating if you are an outside observer, that is, anyone who is not part of the family child care home (e.g., technical assistance providers, consultants, licensing personnel and researchers). An additional 20-30 minutes will be required for asking the provider questions after the observation” (Harms et al., 2007, p. 7).

*Cost:* Cost information was not available in materials reviewed.

## **III. Functioning of Measure**

### **Reliability Information**

#### *Inter-rater Reliability*

#### Indicators

“Each indicator is given a simple “yes” or “no” score, with a “not applicable” possible for a few of the indicators. Thus indicator agreement is not simply the percentage of time that the two observers rate the indicator the same way. The mean percent agreement for all ratings in which both observers gave a score to the indicator was 88.5%” (Harms et al., 2007, p. 4).

#### Items

“Indicators are grouped into items, with each item having a possible score of 1 -7. Reliability at the item level is measured in several ways. First the simple percentage of times the two observers scored an item within one point of one another is shown. Only one item had reliability scores below 80% within one point, and the average across all items was 88.44%. . .

The more demanding weighted kappa measure revealed a few items with kappas below the standard of .60 that is generally accepted. The items for which the weighted kappa was low were ones that tended to have very low scores. The weighted kappa statistic penalizes any variation in scores heavily in such cases, resulting in the low scores. However, these low average scores are an accurate reflection of practice in the United States and it was decided not to revise the items to get more variability and higher weighted kappa scales” (Harms et al., 2007, p. 4-5).

#### Subscale and Total Scale Reliability

“The percentage agreement within one point ranged from just over 80% to just over 90% for the seven subscales. The mean kappas for the subscales, ranging from 0.62 to 0.77, were well within accepted standards. The mean weighted kappa for all items across all observers was a very respectable 0.71. In addition, we calculated the correlation between the two observers’ scores for all settings. The correlation across all observations was 0.77” (Harms et al., 2007, p. 5).

#### *Internal Consistency*

“The internal consistency of the subscales and full test was assessed using Cronbach’s (1951) alpha. . . The overall scale has a high level of internal consistency,

with an alpha of 0.90. Thus the total FCCERS-R score appears to be a measure of global quality that reflects a single major construct. . .

Caution should be taken, however, when interpreting the Personal Care Routines and the Parents and Provider subscales, as these subscales have a lower alpha, and so items within these subscales may be measuring different concepts. In general, we do not recommend using the subscale scores in research. However, the subscales are quite useful both for practitioners and for those providing technical assistance in the field” (Harms et al., 2007, p. 5).

<i>Space and Furnishings</i>	.71
<i>Personal Care Routines</i>	.46
<i>Listening and Talking</i>	.83
<i>Activities</i>	.88
<i>Interaction</i>	.84
<i>Program Structure</i>	.62
<i>Parents and Provider</i>	.39
<i>Full Scale</i>	.90

#### **Validity Information**

Validity information was not available in materials reviewed.

#### **References**

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- Harms, T.,& Clifford, R. M. (1989). *Family Day Care Rating Scale*. New York, NY: Teachers College Press.

# Infant/Toddler Environment Rating Scale Revised Edition (ITERS-R)

## I. Background Information

### Author/Source

*Source:* Harms, T., Cryer, D., Clifford, R. M. (2003). *Infant/Toddler Environment Rating Scale: Revised Edition*. New York, NY: Teachers College Press.

*Publisher:* Teacher's College Press  
1234 Amsterdam Avenue  
New York, NY 10027  
Phone: 1-800-575-6566  
Website: [www.tcpres.com](http://www.tcpres.com)

### Purpose of Measure

*As described by the authors:*

“This scale is designed to assess programs for children from birth to 30 months of age, the age group that is most vulnerable physically, mentally, and emotionally. Therefore, the ITERS-R contains items to assess provision in the environment for the protection of children’s health and safety, appropriate stimulation through language and activities, and warm, supportive interaction (...)

A comprehensive, reliable, and valid instrument that assesses process quality and quantifies what is observed to be happening in a classroom can play an important role in improving the quality of infant/toddler care” (Harms et al., 2003, p. 1).

### Population Measure Developed With

Information was not available in materials reviewed.

### Age Range/Setting Intended For

The age range for the ITERS-R is birth to 30 months of age

### Ways in which Measure Addresses Diversity

- Item 24 “Promoting acceptance of diversity” measures the way that programs promote diversity through activities, books, pictures, materials, etc.
- Item 32 “Provision for children with disabilities” measures the way that programs provide services for special-needs children.  
*Authors’ note:* “This item should be used only if a child with an identified disability is included in the program” (Harms et al., 2003, p. 48).

### **Key Constructs of Measure**

39 items are organized into seven subscales:

- *Space and Furnishings*
- *Personal Care Routines*
- *Listening and Talking*
- *Activities*
- *Interaction*
- *Program Structure*
- *Parents and Staff*

## **II. Administration of Measure**

### **Who Administers Measure/Training Required**

*Test Administration:* Teaching staff can use the scale in their “own classroom for self-assessment or [it can be used by] an outside observer for program monitoring, program evaluation, program improvement, or research” (Harms et al., 2003, p. 5).

*Training Required:* “A video training package for the ITERS-R is available from Teachers College Press for use in self-instruction or as part of group training. It is preferable to participate in a training sequence led by an experienced ITERS-R trainer before using the scale formally. The training sequence for observers who will use the scale for monitoring, evaluation, or research should include at least two practice classroom observations with a small group of observers led by an experienced group leader, followed by an inter-rater agreement comparison. Additional field practice observations may be needed to reach the desired level of agreement, or to develop reliability within a group” (Harms et al., 2003, p. 5).

### **Setting**

The ITERS-R is administered in infant/toddler classrooms, one room or one group at a time.

### **Time Needed and Cost**

*Time:* The ITERS-R takes at least three hours to administer for outside observers.

*Cost:* The cost of the Infant/Toddler Environment Rating Scale is \$16.95.

Video Observations for the ITERS-R (Training package) costs \$59.00

## **III. Functioning of Measure**

### **Reliability Information**

#### *Inter-rater Reliability*

Indicators:

“Across all 39 items in the revised ITERS, there are a total of 467 indicators. There was agreement on 91.65% of all indicator scores given by the raters. Some researchers will omit the Parents and Staff Subscale in their work. Thus, [the developers] have calculated the indicator reliability for the child specific items in the

first six subscales, Items 1-32. The observer agreement for the 378 indicators in these items was 90.27%. Only one item had indicator agreement of less than 80% (Item 11. Safety practices was 79.11%). The item with the highest level of indicator agreement was Item 35. Staff professional needs, with an agreement of 97.36%. It is apparent that a high level of observer agreement at the indicator level can be obtained using the ITERS-R” (Harms et al., 2003, p. 3).

Items:

“Two measures of item agreement have been calculated. First, [the developers] calculated the agreement between pairs of observers within 1 point on the seven-point scale. Across the 32 child-related items, there was agreement at this level 83% of the time. For the full 39 items, agreement within one point ranged from a low of 64% for Item 4. Room arrangement, to 98% for Item 38. Evaluation of staff.

A second, somewhat more conservative measure of reliability is Cohen’s Kappa. This measure takes into account the difference between scores. The mean weighted Kappa for the first 32 items was .55 and for the full 39-item scale it was .58. Weighted Kappa’s ranged from a low of .14 for Item 9. Diapering/toileting, to a high of .92 for Item 34. Provisions for personal needs of staff. Only two items had weighted Kappa’s below .40 (Item 9. Diapering/toileting, and Item 11. Safety practices, with a weighted Kappa of .20). In both cases the mean item score was extremely low. A characteristic of the Kappa statistic is that for items with little variability the reliability is extremely sensitive to even minor differences between observers. The authors and observers agreed that the low scores on these items accurately reflected the situation in the groups observed and that any changes to substantially increase variability would provide an inaccurate picture of the features of quality reflected in these two items. For all items with a weighted Kappa below .50 the authors examined the items carefully and made minor changes to improve the reliability of the item without changing its basic content. These changes are included in the printed version of the scale. Even using the more conservative measure of reliability, the overall results indicate a clearly acceptable level of reliability” (Harms et al., 2003, p. 3).

#### *Intraclass Correlations*

“For the full scale, the intraclass correlation was .92 both for the full 39 items as well as for the 32 child-related items” (Harms et al., 2003, p. 3).

Intraclass correlations for the subscales were:

- *Space and Furnishings: 0.73*
- *Personal Care Routines: 0.67*
- *Listening and Talking: 0.77*
- *Activities: 0.91*
- *Interaction: 0.78*
- *Program Structure: 0.87*
- *Parents and Staff: 0.92*

“It should be noted that the intraclass correlation for the Program Structure Subscale is calculated excluding Item 32. Provision for children with disabilities, since only a

small portion of groups received a score on this item. Taken together with the high levels of agreement at the item level, the scale has clearly acceptable levels of reliability. It should be remembered that this field test used observers who had been trained and had a good grasp of the concepts used in the scale” (Harms et al., 2003, p. 3).

#### *Internal consistency*

“Overall the scale has a high level of internal consistency with a Cronbach’s alpha of .93. For the child-related items, 1-32, the alpha is .92. This measure indicates a high degree of confidence that a unified concept is being measured. A second issue is the degree to which the subscales also show consistency” (Harms et al., 2003, p. 3).

Alphas for the subscales were:

- *Space and Furnishings*: 0.47
- *Personal Care Routines*: 0.56
- *Listening and Talking*: 0.79
- *Activities*: 0.79
- *Interaction*: 0.80
- *Program Structure*: 0.70
- *Parents and Staff*: 0.68

“Cronbach’s alphas of .6 and higher are generally considered acceptable levels of internal consistency. Thus, caution should be taken in using the Space and Furnishings and Personal Care Routines subscales. Program Structure, Item 32. Provisions for children with disabilities was rated for only the few groups that had children with disabilities. The internal consistency score for this subscale was calculated excluding this item. Thus, the authors recommend using the Program Structure subscale excluding Item 32 unless most programs being assessed include children with disabilities” (Harms et al., 2003, p. 4).

### **Validity Information**

#### *Construct Validity*

“Both the ECERS and ITERS scores are predicted by structural measures of quality such as child-staff ratios, group size, and staff education levels (Cryer, Tietze, Burchinal, Leal, & Palacios, 1999; Phillipsen, Burchinal, Howes, & Cryer, 1997). The scores are also related to other characteristics normally expected to be related to quality such as teacher salaries and total program costs (Cryer et al., 1999; Marshall, Creps, Burstein, Glantz, Robeson, & Barnett, 2001; Phillipsen et al., 1998; Whitebook, Howes, & Phillips, 1989)” (Harms et al., 2003, p. 2).

#### *Predictive Validity*

“Rating scale scores have been shown to predict children’s development (Burchinal, Roberts, Nabors, & Bryant, 1996; Peisner-Feinberg et al., 1999). (...) the concurrent and predictive validity of the original ITERS is well established and the current revision maintains the basic properties of the original instrument” (Harms et al., 2003, p. 2).

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## Observation Measures of Language and Literacy (OMLIT)

### I. Background Information

#### Author/Source

*Source:* Goodson, B. D., Layzer, C. J., Smith, W. C., & Rimdzius, T. (2006). *Observation Measures of Language and Literacy Instruction in Early Childhood (OMLIT)*. Cambridge, MA: Abt Associates, Inc.

*Publisher:* Abt Associates, Inc.  
55 Wheeler Street  
Cambridge, MA  
<http://www.abtassociates.com/>

#### Purpose of Measure

*As described by the authors:*

The Observation Measures of Language and Literacy Instruction in Early Childhood Education Classrooms (OMLIT) was developed as a battery of measures “to address the need for research-based, reliable and valid measures of the instructional practices and environmental supports for language and literacy in early childhood classrooms” (Abt Associates, undated, p.1). The OMLIT includes six instruments (Classroom Description, Snapshot of Classroom Activities (SNAPSHOT), Read-Aloud Profile (RAP), Classroom Literacy Instruction Profile (CLIP), Quality Rating of Language and Literacy Instruction (QUILL), and the Classroom Literacy Opportunities Checklist (CLOC). The Arnett Caregiver Rating Scale (Arnett, 1989) is typically done along with the OMLIT measures. Although individual OMLIT measures may be used alone, together the measures provide an in-depth assessment of the quality (and in some cases quantity) of the language and literacy activities in the classroom.

The OMLIT was designed as a research tool. The first version was developed based on findings from a national conference on instructional practices related to early literacy (Abt Associates, 2002). The OMLIT was then refined and adapted for the Even Start Classroom Literacy Intervention and Outcomes Study (CLIO) under contract ED-01-CO-0120, as administered by the Institute of Education Sciences. It has since been used in several other experimental studies that are evaluating language/literacy curricula. In addition, the OMLIT-Snapshot (adapted) and the OMLIT-RAP are being used in a randomized experiment conducted in family child care homes in Massachusetts.

#### Population Measure Developed With

- Early versions of the OMLIT were piloted in Fall 2003 in three child care centers in the Boston area by six observers. These centers were all day programs serving primarily subsidized children

- A total of 16 observers were trained on a revised OMLIT in spring 2004. The OMLIT was used in 2004 in the national sample of Even Start programs in the CLIO study and a large sample of child care centers serving subsidized children in Miami-Dade county (Project UPGRADE).
- The OMLIT was further revised after 2004. The revised version was used in the national sample of Even Start programs in the CLIO study, in the same sample of child care programs in Miami-Dade county, and in a sample of public school pre-kindergarten programs run by the Chicago School Department.
- Final revisions involved primarily formatting and additional definitions of codes. The most current version reviewed is dated February 2006.

#### **Age Range/Setting Intended For**

The OMLIT was developed for observing early childhood classrooms. In addition, the Read Aloud Profile has been used in family child care homes.

#### **Ways in which Measure Addresses Diversity**

Research on the acquisition of English in English language learners informed the development of the OMLIT. One of the OMLIT measures, the Classroom Literacy Opportunities Checklist (OMLIT-CLOC), includes a question on whether there is cultural diversity in literacy materials. The OMLIT-Snapshot (a description of classroom activities and groupings) includes a question on whether adults and children are speaking in English or another language. Finally, the OMLIT-QUILL is used to assess the overall quality of instructional practices in language and literacy with English language learners.

#### **Key Constructs & Scoring of Measure**

The OMLIT is made up of six separate measures and the Arnett Caregiver Rating Scale (Arnett, 1989).

- The *Classroom Description* (OMLIT-Description) has six sections. Four are completed at the beginning of the observation and require the observer to ask a few questions of the teacher:
  - *Setting Profile*. Includes address of setting, name of setting, date of observation, start and end times for observation, and observer name.
  - *Staff*. Includes listing of all classroom staff present and assigns unique IDs to each staff member.
  - *Child population*. Includes number of children by age and by home language, presence of any children with diagnosed special needs.
  - *Classroom theme*. Includes any current classroom theme(s) identified by the teacher.

Two other sections of the *Classroom Description* are completed at the end of the observation.

- *Language(s) of instruction.* For each member of the classroom staff, the observer indicates the proportion of time English, Spanish, or another language was used during instruction with the children. The observer also indicates whether there was at least one adult in the classroom who spoke the language of every child.
- *Atypical observation.* The observer indicates whether there was something about the observation that made it atypical for that classroom, such as an emergency in the classroom, an extended fire drill, etc.
- The *Snapshot of Classroom Activities* (OMLIT-Snapshot) has two sections:
  - *Environment.* Includes codes for total number of children present, total number of adults present, and type of adults present (teachers, aides, other adults). This section can be used to compute staff/child ratio. It also includes a check box to indicate that during this Snapshot, all of the children are doing the same activity.
  - *Activities.* Includes codes for type of activity; number of children, teachers, aides, and other adults in the activity, number of other adults in activity; integration of print in activity; and language(s) spoken by children or adults, if any. These individual activity codes can be combined to form activity constructs, such as early literacy activities or developmental activities; child grouping constructs, such as individual child activities, pairs, small groups, medium groups, and large groups of children; and teacher engagement constructs.
- The *Read Aloud Profile* (OMLIT-RAP) has seven sections.
  - *Pre-reading* (11 items)
  - *Reading* (14 items)
  - *Post-reading* (11 items)
  - *Adult reading book* (teacher, assistant, other adult)
  - *Adult language with children* (English, Spanish, other)
  - *Number of children reading*
  - *Book characteristics* (6 items)

These RAP codes have been used to form constructs for support of comprehension (providing information about text, introducing new vocabulary, asking questions, reviewing text and providing extension activities), support of print motivation, and support of phonological awareness/print knowledge.

In addition, the OMLIT-RAP includes coding of three features of the read aloud on a 1 (minimal) to 5 (high) scale:

- *Story-related vocabulary*
- *Adult use of open-ended questions*
- *Depth of post-reading*

- The *Classroom Literacy Opportunities Checklist* (OMLIT-CLOC) is an inventory of classroom literacy resources. It identifies 11 aspects of the literacy environment, each of which is rated on a 1 (minimal) to 3 (high) scale:
  - *Physical layout of the classroom* (5 items)
  - *Text or print environment* (8 items)
  - *Literacy-related materials and toys* (2 items)
  - *Books and reading area* (12 items)
  - *Listening area* (3 items)
  - *Writing supports* (6 items)
  - *Literacy Materials Outside of the Reading and Writing Areas* (3 items)
  - *Diversity in literacy materials* (3 items)
  - *Instructional technology* (2 items)
  - *Richness of curriculum theme and integration of theme in classroom activities, materials, displays* (7 items)
  - *Literacy resources outside of the classroom* (4 items)
  
- The *Classroom Literacy Instruction Profile* (OMLIT-CLIP) involves a two-stage coding protocol. First, the observer determines if any classroom staff member is involved in a literacy activity. If so, the observer codes seven characteristics of the literacy activity:
  - *Type of activity*
  - *Literacy knowledge being afforded to the children*
  - *Teacher's instructional style*
  - *Text support/Context for literacy instruction*
  - *Number of children involved in activity with teacher*
  - *Languages spoken by staff and children, and focus of the language* (i.e., talk with peers, talk with group, talk with individual children, etc.)If the literacy activity involves adult-child discussion, the quality of the discussion is evaluated on a 1 (minimal) to 5 (extensive) scale for two characteristics:
  - *Cognitive challenge in the discussion* (3 items)
  - *Depth of the discussion* (2 items)
  
- The *Quality Rating of Language and Literacy Instruction* (OMLIT-QUILL) is an overall evaluation of the quality and quantity of the instructional practices around literacy. Ten items are coded for frequency (no opportunities, one, a few, or many) and also are rated on a 1 (minimal) to 5 (high) scale for overall quality (with examples offered for anchors at the 1, 3, and 5 rating levels). The ten items address:
  - *Opportunities to engage in writing*
  - *Attention to/promotion of letter/word knowledge*
  - *Opportunities/encouragement of oral language to communicate ideas and thoughts*
  - *Attention to the functions and features of print*

- *Attention to sounds in words throughout the day*
- *Attention to/promotion of print motivation*
- *English Language Learner (ELL) children intentionally included in activities, conversations*
- *Development of both home language(s) and English supported for ELL children*
- *Home language(s) of ELL children integrated into language and literacy activities*
- *Language and literacy materials/methods appropriate for ELL children*
- *Opportunities for dramatic play and play planning*
- *Integration of special needs children in classroom*

In addition, a total rating of support for language and literacy is computed as the average of the first five items.

## **II. Administration of Measure**

### **Who Administers Measure/Training Required**

*Test Administration:* Trained observers may use the battery of measures.

To date, the OMLIT has been administered in the following way. The Classroom Description is completed at the very beginning of the observation. Subsequently, a Snapshot is completed every ten minutes as an instantaneous picture of the activities and groupings in the class at the ten-minute mark. The CLIP is completed every ten minutes as well, but starting on the five-minute mark within the Snapshot. The CLIP involves watching the teacher and aide for five minutes, and then coding any literacy activity in which they are involved over the next five minute period.

The RAP is completed at any time during the observation that a target adult in the classroom begins to read aloud to a designated number of children (the number could vary by study, e.g., in the CLIO study, the RAP was only recorded if the teacher or aide read to at least two children). While it is being coded, the observer does not complete a Snapshot or CLIP, although when the RAP is completed, the observer goes back and indicates that reading aloud was occurring in any coding interval covered by the RAP.

The QUILL is completed at the end of the observation, and is based on evidence from all of the other measures, as well as notes on events that occurred outside of the coding windows. The CLOC is also completed at the end of the observation.

*Training Required:* “The amount of training required depends on how many and which of the separate OMLIT measures are being used. The measures require two types of training: (a) classroom training, culminating in paper-and-pencil reliability tests, and (b) practice observation in a preschool classroom. Ideally, inter-rater reliability is also assessed for each trained observer through dual (simultaneous) coding in a preschool classroom by the observer and an OMLIT trainer. The four

central measures (Snapshot, RAP, CLIP, QUILL) require 8 hours each of classroom training. The OMLIT-CLOC and the Classroom Description require less than one-half day of classroom training (Layzer, 2006, personal communication).

“The cost of training depends on the number of measures to be trained. Minimally, each of the central measures requires one day of training by one trainer for up to 10 trainees at \$1,000 a day plus expenses. Two trainers are required for more than 10 trainees” (Layzer, 2006, personal communication)

### **Setting**

The OMLIT was developed for observations in early childhood education classrooms, although the Snapshot and RAP are currently being used in family child care homes as well.

### **Time Needed and Cost**

*Time:* The authors recommend observing for a minimum of 3 hours (approximately one half-day) in the classroom.

*Cost:* A PDF copy of each OMLIT measure may be obtained from Abt Associates, Inc. A training manual is also available electronically.

## **III. Functioning of Measure**

### **Reliability Information**

#### *Inter-rater Reliability*

Paired observers coded classroom activities as part of the training process (14 paired observations) as well as during actual data collection for the Even Start Classroom Literacy Interventions and Outcomes Study (17 paired observations). Inter-rater reliability calculations are based on data from both of these sources (Goodson & Layzer, 2005).

- OMLIT-Snapshot: “High inter-rater agreement was not expected for many of the Snapshot codes, since the allocation of children to activities could vary depending on the direction of rotation of the observer’s scan of the classroom. For this reason, while we expected that observers might agree on the activities taking place in the classroom, they were much more likely to differ on the number of children they assigned to each activity. This also leads us to believe that the inter-rater reliability estimates for the Snapshot present an underestimate of the true level of agreement across trained observers in how they would code an idealized ‘stationary’ classroom.

The Environment section of the Snapshot includes a count of the numbers of children and adults present in the classroom. There was a high level of agreement – above 80% - on all codes on the Environment section. On the Activities section of the Snapshot, children and adults are allocated into activities. This is the part of the Snapshot where small differences in timing

between observers could adversely affect their agreement. As predicted, the inter-rater agreement was lowest for the categories involving numbers of children in an activity (57%). The level of agreement on the numbers of adults in each activity also was low. On the other hand, the types of activities that each observer coded had higher inter-rater agreement (82%), as did the integration of literacy in activities (88%). Although the level of agreement at the activity level on whether or not children or adults were talking was only 71%, agreement was very high – 100% - on whether or not there were any adults or children talking in *any* of the activities coded on the Snapshot” (Abt Associates, Attachment B, undated, p. B7-B8).

- OMLIT-RAP: Inter-rater agreement on strategies used before, during, and after a read aloud ranged from 85% to 97%, with an overall average of 90%. The inter-rater agreement on individual instructional codes during reading ranged from 53% to 93%. The average agreement on the Quality Indicators was high if agreement was defined as within one point (83% for story-related vocabulary, 83% for adult use of open-ended questions, 85% for depth of post-reading activity, and 84% across all quality indicators).

However, if agreement was defined as exactly the same quality rating across observers, the percent agreement dropped substantially (76% for story-related vocabulary, 64% for adult use of open-ended questions, and 76% for depth of post-reading activity).

- OMLIT-CLOC: It is reported that nine of the ten sections of the CLOC had reliabilities above 70% (three sections had agreement above 80%: writing resources 81%, literacy toys and materials 82%, and physical layout of classrooms 91%).

Researchers at Abt Associates indicated that they would “strive to increase the reliability of this section through (a) improving the definition of the item to help observers understand what they are looking for, and (b) focusing training on these items to heighten observer awareness of isolated materials in different areas of the classroom” (Abt Associates, undated, B-5).

- OMLIT-CLIP: Inter-rater agreement is based only on the 17 Even Start classrooms. The CLIP involves a two-stage coding process. Observers first determine whether any classroom staff are involved in a literacy activity. If so, then that activity is coded for additional information about the characteristics of the literacy activity.

On average, the inter-rater agreement on whether a literacy activity occurred was 85% (range of agreement across pairs: 50% to 100%). When both observers identified a literacy activity, there was high agreement on the characteristics of that activity (agreement ranged from 96% to 98% across the 7 characteristics). In addition, inter-rater agreement on the quality ratings in

the CLIP were 92% for *cognitive challenge in the discussion* and 93% for *depth of the discussion*.

- OMLIT-QUILL: Inter-rater agreement is reported on six of the OMLIT-QUILL literacy activities, but excludes the four items concerning activities for ELL children.

Inter-rater agreement on the frequency of the six literacy activities ranged from 67% to 83%, with average overall agreement for frequency being 76%. Inter-rater agreement on the quality of literacy activities (within one point) ranged from 68% to 94% across the six literacy activities.

### **Validity Information**

The only validity information for the OMLIT involves its content. The measures were derived from information discussed at a research conference of experts in the field. In fall 2003, Abt Associates convened a conference on measuring the quality of language and literacy instruction in early childhood programs. The conference focused on research evidence of instructional practices linked to short or long-term outcomes for children. The OMLIT was developed around this research on instructional practices.

### **Comments**

The reliability reported in Abt Associates Attachment B (undated) appears to be on the 2004 version of the OMLIT, and consequently does not reflect the current (February 2006) version of the OMLIT-CLOC.

The Abt Associates (undated) report that “the QUILL ratings and CLOC constructs have undergone IRT scaling by Futoshi Yamoto, a psychometrician at Abt, which shows these constructs to have very high reliability. A separate technical report has been prepared on the IRT scaling, and this will be available soon” (Abt Associates, undated, p. B-9).

### **References**

- Arnett, J. (1989). Caregivers in day-care centers: Does training matter? *Journal of Applied Developmental Psychology*, 10, 541-522.
- Goodson, B. D. and Layzer, C. *Assessing support for language and literacy in early childhood classrooms: The Observation Measures for Language and Literacy (OMLIT: Goodson, Layzer, Smith, and Rimdzius, 2004)*. Paper presented at the annual conference of the American Educational Research Association, 2005.
- Abt Associates, Inc. (2003). *Assessing instructional practices in early literacy and numeracy*. A conference held at Abt Associates, Inc, Cambridge, MA, 2002.

## Observational Record of the Caregiving Environment (ORCE)

### I. Background Information

#### Author/Source

*Source:* NICHD Study of Early Child Care and Youth Development Phase I Instrument Document (<http://secc.rti.org/instdoc.doc>).

Observational Record of the Caregiving Environment (ORCE): Behavior Scales, Qualitative Scales, and Observed Structural Variables for 6, 15, 24, & 36 months.

*NICHD Study of Early Child Care and Youth Development Phase II Instrument Document*

(<http://secc.rti.org/Phase2InstrumentDoc.pdf>).

Observational Record of the Caregiving Environment (ORCE): Behavior Scales, Qualitative Scales, and Observed Structural Variables for 54 months.

NICHD Early Child Care Research Network (1996).

Characteristics of infant child care: Factors contributing to positive caregiving. *Early Childhood Research Quarterly*, 11, 269-306.

NICHD Early Child Care Research Network. (2001). Nonmaternal care and family factors in early development: An overview of the NICHD Study of Early Child Care. *Journal of Applied Developmental Psychology*, 22, 457-492.

*Publisher:* Ablex Publishing

#### Purpose of Measure

*As described by the authors:*

The Observational Record of the Caregiving Environment (ORCE) was created for the NICHD Study of Early Child Care (now known as the NICHD Study of Early Child Care and Youth Development) because no other observational rating scale had been developed which could address children's behavior over the entire age span of the study (6 months to 54 months) and across different non-maternal child care settings.

Although several other measures were sources of "inspiration" for the ORCE (i.e., CIS, Arnett, 1989; Assessment Profile for Early Childhood Programs, Abbott-Shim & Sibley, 1987; FDCRS and ECERS, Harms & Clifford, 1984), "the results of extensive piloting and much input from the Steering Committee as well as members of the child care subcommittee have made this an original and unique assessment instrument specifically designed for our purposes" (NICHD Study of Early Child Care Phase I Instrument Document, 2004, p. 127). The ORCE was created "(a) to assess minute-

to-minute evidence of caregiving and quality in a relatively objective, quantitative and qualitative way and (b) to accommodate to the demands of the enterprise and the limitations of the human observers (i.e., we tried to get as much detail and ‘richness’ as our coders could record reliably)” (NICHD Study of Early Child Care Phase I Instrument Document, 2004, p. 128). In contrast to other instruments which focus on aspects of quality in the classroom at large (e.g., ITERS, ECERS), the ORCE focuses on the proximal experiences of the child while in non-maternal care and provides information about (1) the behaviors of the caregivers toward the target child and (2) the behavior of the target child. The ORCE also provides observed data on “structural measures” such as the number of children in the group and the child to adult ratio.

### **Population Measure Developed With**

- The ORCE was developed based on 1,364 families across 10 sites nationally (NICHD Study of Early Child Care and Youth Development). The children were born in 24 hospitals and were followed up wherever they lived subsequently.
- The ten research sites were in geographical proximity to the following universities or research organizations: University of Arkansas, Little Rock, AK; University of California at Irvine, Orange County, CA; University of Kansas, Lawrence, KS; Wellesley College, MA; Temple University, Philadelphia, PA; University of Pittsburgh, PA; University of Virginia, Charlottesville, VA; Western Carolina Center, Morganton and Hickory, NC; University of Washington, Seattle, WA; and University of Wisconsin, Madison, WI.

### **Age Range/Setting Intended For**

The ORCE may be used for observational assessments of the non-maternal child care setting when the child is 6, 15, 24, 36 and 54 months old.

### **Ways in which Measure Addresses Diversity**

Information regarding diversity with the ORCE was not available in materials reviewed.

### **Key Constructs of Measure**

- The instrument has four versions, one for each time point when data were collected (the 24 & 36 month versions are the same). Each version contains three parts: (1) ORCE Behavior Scales, (2) ORCE Qualitative Ratings, and (3) ORCE Observed Structural Variables. The 6 month ORCE also contains Global ratings. Additionally, several composites were created for each version of the ORCE. For more information about composites, please refer to the Instrument Documents and Manuals (<http://secc.rti.org/>).

### ***Behavior Scales***

The Behavior Scales provide an account of the occurrence of specific behaviors directed by caregivers toward the target child. A behavior is either marked as having

occurred within a 30-second observation interval or left blank. Behaviors included in the scales were derived from the research on parental and caregiver behaviors that have been found to be associated with positive child development. At 24, 36, and 54 months, specific child behaviors are also recorded (NICHD Study of Early Child Care Phase I Instrument Document, 2004). A more detailed description of each behavior code can be found in the corresponding Instrument Documents and Manuals (<http://secc.rti.org/>).

### 6 Month Behavior Scales

- Positive and Negative Affect
  - Responds to negative affect
  - Shared positive affect
  - Positive physical contact
- Language Focused Interaction
  - Responds to child's vocalizations
  - Reads aloud to child
  - Other talk to child
- Stimulation
  - Stimulates cognitive development
  - Stimulates social development
- Behavior Management
  - Facilitates child's behavior
  - Restricts child's activities
  - Restricts in a physical container
  - Speaks negatively to child
  - Uses negative physical actions
- Child's Activity
  - Physical care
  - Other activity with adult
  - Activity with child(ren) only
  - Solitary activity
  - Watching/unoccupied/transition
  - Watching TV
- Child's Interaction with Other Children
  - Positive/neutral interaction
  - Negative interaction

At the 6 month observation, the NICHD Early Child Care Research Network (1996, p. 278) created a composite of the Behavioral Scales:

- *Positive caregiving frequencies.* Sum of Positive Behavior (shared positive affect + positive physical contact), Responsive Behavior (responds to vocalization + facilitates infant behavior), and Stimulating Behavior (stimulates cognitive development + stimulates social development + asks question + other talk + reads).

### 15 Month Behavior Scales

The items on the 15 month scale are the same as those included at 6 months with the following exceptions:

- Adult Language (replaced Language Focused Interaction and includes additional items)
  - Speaks positively to child/ren
  - Speaks negatively to child/ren
  - Asks question to child/ren
  - Gives direction to child/ren
  - Other talk to group
- Activity Setting (category added)
  - With adult (and child/ren)
  - With child/ren only
  - Alone
- Child's Self Assertion (category added)
  - Says "no"/refuses
  - Acts defiant

The following composites were created with the 15-month behavioral variables:

- *Total Stimulation*: Stimulates cognitive development + Stimulates social development + Reads aloud to children + Asks question to child + Other talk to child
- *No Stimulation*: Solitary activity + Unoccupied + Restricted in a physical container + Watching TV + Other activity with adult (reflected) + Activity with children only (reflected)
- *Response to Distress*: Proportion of time adult responds to negative affect, Out of Child's total exhibited negative affect
- *Responsiveness*: Responds to child's vocalizations + Facilitates child's behavior
- *Negative Contact*: Restricts child's activities + Negative talk to child + Negative physical contact with child
- *Positive Contact*: Shared positive affect + Positive physical contact + Positive talk
- *Rate of Physical Care*: Proportion of physical care out of total time spent with adult
- *Child's Contact with Peers*: Activity with children only + Negative interactions with children + Positive/Neutral interactions with children
- *Total Adult Attention*: Sum of adult attention paid to child during all segments
- *Total Adult Talk*: Gives direction + Positive talk + Negative talk + Reads aloud + Asks questions + Other talk to child + Other talk to group
- *Group Interactions*: Rate of other talk to group as proportion of total other talk
- *15-month Behavioral Composite, Standardized* ( $m=0$ ,  $std=3$ ): Positive affect + Positive talk + Positive physical contact + Responds to child's vocalizations + Asks questions + Other talk to child + Reads aloud + Stimulates child's

cognitive development + Stimulates child's social development + Facilitates child's behavior + Restricts child's activities (reflected) + Negative talk to child (reflected) + Negative physical contact with child (reflected) + Child's time spent unoccupied (reflected)

#### **24 and 36 Month Behavior Scales**

The items on the 24 & 36 month scales are the same as those included at 15 months with the following exceptions:

- Stimulation (category added)
  - Teaches academic skill
  - Teaches social rule
  - Positive physical contact
  - Mutual exchange
- Physical Control (category added)
  - Negative/restricting actions
- Child's Interaction with Other Children (same category, item added)
  - Mutual pretend play
- Child's Behavior (category added)
  - Prosocial act
  - Negative act (nonaggressive)
  - Verbal aggression
  - Physical aggression
  - Complies with adult
  - Says "no"/refuses to adult
  - Acts defiant to adult

#### **54 Month Behavior Scales**

The items on the 54 month scale are the same as those included at 24 and 36 months with the following exceptions:

- Adult Language/Management (this category includes all of the items in the Language scale with items added)
  - Answer's child's question
  - Offers choice
  - Negative management
- Stimulation by Adult (same category, item added)
  - Facilitates learning
- Positive/Neutral Peer Activities (new category)
  - Cooperative play
  - Boisterous play
  - Other positive/neutral interaction
  - Parallel play
- Negative Peer Activities (new category, but includes some of the same items in the Child's Behavior category from 24/36 mo. measure)
  - Peer negative behavior

- Child physical aggression
- Child verbal aggression
- Child negative act (nonaggressive)
- Child Alone (new category, but includes some of same items in the Child's Activity category from 24/36 mo. measure)
  - Solitary activity
  - Watching/unoccupied/transition
  - Watching TV

According to the NICHD Early Child Care Study Phase II Instrument Document, at the 54 month observation, the Behavioral Scales generated the following composites (items within composites were first standardized with mean of 0 and sd of 1):

- *Positive caregiving.* Sum of Encourages or praises, Offers choice, Asks question, Gives direction, Adult other talk, Teachers academic skill, Facilitates learning and Playful exchange.
- *Peer agonism.* Sum of Peer negative behavior, Child physical aggression, Child verbal aggression, and Child negative act (nonaggressive).
- *Peer aggression.* Sum of Child physical aggression and Child verbal aggression.
- *Child noncompliance.* Sum of Says no/refuses to adult and Acts defiant to adult.

### ***Qualitative Ratings***

The Qualitative Ratings were designed to capture the quality of the child's caregiving experience. Each set of qualitative ratings is based on a complete 44-minute cycle, of which 25 minutes are designated for observing quality. Notes about quality are taken during the first 34 minutes of the observation. During the last 10 minutes of the observation, the observer focuses completely on observing quality and determining overall ratings based on the complete cycle (44 minutes). Observers rate quality items on a 4-point scale from 1, "not at all characteristic" to 4, "very characteristic". A more detailed description of each qualitative scale can be found in the corresponding Instrument Documents and Manuals (<http://secc.rti.org/>).

### **6 Month Qualitative Scales**

- Caregiver Notes
  - Sensitivity/responsivity to distress
  - Sensitivity/responsivity to nondistress
  - Intrusiveness
  - Detachment/disengagement
  - Stimulation of development
  - Positive regard for the child
  - Negative regard for the child
  - Flatness of affect
- Child Notes
  - Positive mood
  - Negative mood

- Activity level
- Sociability
- Sustained attention

At the 6 month observation, the NICHD Early Child Care Research Network (1996, p. 278) created a composite of the Qualitative Ratings:

- *Positive caregiving ratings.* Sum of Sensitivity or Responsiveness to Non-distressed communication, positive regard, stimulation of cognitive development, detachment (reverse coded), and flat affect (reverse coded).
- The qualitative composite did not include ratings of intrusiveness or negative regard because extensive pilot observations indicated little variability in these rarely observed domains (NICHD Early Child Care Research Network, 1996, p. 282).

### **15 and 24&36 Month Qualitative Scales**

All items are the same as those included in the 6 month measure with the addition of the following item:

- Child Notes
  - Positive engagement with caregiver

### **54 Month Qualitative Scales**

- Caregiver Ratings
  - Sensitivity/responsivity
  - Intrusiveness/overcontrol
  - Detachment/disengagement
  - Stimulation of cognitive development
- Child Ratings
  - Self-reliance
  - Aggression/angry affect
  - Attention
  - Positive affect/mood
  - Activity
  - Social withdrawal from peers
- Setting Ratings
  - Chaos
  - Overcontrol
  - Positive Emotional Climate
  - Negative Emotional Climate

At the 54 month observation, the Qualitative Ratings generated the following composites (according to the NICHD Early Child Care Study Phase II Instrument Document):

- *Setting qualitative composite.* Sum of 4 settings ratings (Chaos + Overcontrol + Positive emotional climate + Negative emotional climate) after reverse coding Chaos, Overcontrol, and Negative emotional climate.

- *Caregiver qualitative composite.* Sum of 4 caregiver ratings (Sensitivity/responsiveness + Intrusiveness/overcontrol + Detachment/disengagement + Stimulation of cognitive development) after reverse coding Intrusiveness and Detachment.
- *Arrangement qualitative composite.* Sum of 4 settings ratings and 4 caregiver ratings after reverse coding Chaos, Overcontrol, Negative emotional climate, Intrusiveness, and Detachment.

### ***Structural Variables***

The observed structural variables capture environmental aspects of the caregiving environment.

### **Structural Variables (included in 6; 15; 24 and 36; and 54 month ORCE)**

- Ratio
- Group size
- Numbers of children
- Numbers of adults available
- Proportion of observation completed outdoors
- Amount of time caregiver is involved with child
- Age mix of the group

## **II. Administration of Measure**

### **Who Administers Measure/Training Required**

*Test Administration:* Trained observers conduct the observations. The procedure for observing includes two to four 44-minute observation cycles. Each cycle includes:

- 10 minutes of observation using the behavioral scales (using 30-second observe and record intervals)
- 2 minutes of note taking for qualitative ratings based on the preceding observation period
- 10 minutes of observing using the behavior scales followed by 2 minutes of note taking for qualitative ratings based on the preceding observation period
- 10 minutes of observation using the behavior scales
- 10 minutes of observation and note taking for the qualitative ratings that incorporate the preceding observation period and the current 10 minutes

*Training Required:* Approximately two days of training was provided on the ORCE in the NICHD Study of Early Child Care, followed by practice administering the instrument and tests of reliability to criterion coding (Bradley et al., 2003). “Data collectors were required to achieve at least 90% agreement with criterion coding to be certified. To maintain certification, data collectors were re-examined every 4 months using the same videotape procedure” (Bradley et al., 2003, p.300).

**Comment**

The developers of the ORCE caution that unless a person has access to the NICHD training tapes, it would be difficult to use. There is no plan to release the tapes due to confidentiality issues. The developers note that without proper training reliability/validity of the ORCE in future use is not known.

**Setting**

Observations may be made in any non-maternal care environment.

**Time Needed and Cost**

*Time:* A cycle of recording consists of three 10-minute intervals of continuous recording, broken by 2-minute intervals for qualitative note-taking, followed by a 10-minute interval of observation focused on global qualities of behavior (that is, 44 minutes total for one observation cycle). Two to four such cycles of observation are collected at each assessment point (NICHD Study of Early Child Care Phase I Instrument Document, 2004, p.126-127)

*Cost:* The major cost involved is training observers to criterion. Administration of this pencil-and-paper instrument requires a timer.

**III. Functioning of Measure**

**Reliability Information**

*Inter-rater Reliability*

The research assistants who applied the ORCE throughout data collection during the Study of Early Child Care were certified at each data collection point through “gold standard” reliability coding. The gold standard reliability required that the research assistants’ coding of taped caregiving situations, when compared to coding from master coders, achieved a passing score. Live reliabilities were also computed throughout each data collection period from the coding of two research assistants who coded the same caregiving situation. Two reliability estimates were computed from the gold standard and live codings, the Pearson Correlation and an estimate computed from the repeated measures ANOVA formulations provided in Winer (1971). The analysis variables that were reduced from ORCE cycles are divided into three categories; those from the behavioral items, those from the caregiver (adult) qualitative codes, and those from the child-centered qualitative codes.

The values reported in the following sections are the Median Pearson Correlations, as described above. The measure developers noted that sometimes different reliability estimates did not always indicate the same degree of reliability. For more specific information including all reliability estimates (Median Person Correlations, Median Winer Reliability, Pearson Correlation for “Live” data, Winer Reliability for “Live” data) for each variable, contact Bonnie Knoke (knoke@rti.org ) at the Research Triangle Institute.

Please note that we have provided reliability information on composite variables that were created for the NICHD Study of Early Child Care. When available, we provided

information on the construction of these composite variables in the Key Constructs section above. However, there are some reliability estimates reported for composite variables for which we did not have information on their construction. This information was not available in the materials that we had to review.

### ***Behavioral Variables***

#### **6 Month Behavior Scales**

Median Pearson Correlations by variable ranged from 0.41 to 0.99, with most estimates falling above 0.80. The reliability estimate for Stimulates Social Development and Negative Interaction were the lowest at 0.41 and 0.49, respectively.

#### **15 Month Behavior Scales**

Individual reliabilities for each variable are not reported for the 15 month data. Instead, reliability estimates are reported for 12 behavioral composites. The composites include Total Stimulation, No Stimulation, Response to Distress, Responsiveness, Negative Contact, Positive Contact, Rate of Physical Care, Child's Contact with Peers, Total Adult Attention, Total Adult Talk, and Group Interactions, and a total 15-month Behavioral Composite. All reliability estimates range from .64 to .93, with Positive Contact, Negative Contact, Response, and Peer Contact being the lowest.

#### **24 Month Behavior Scales**

Out of a total of forty-nine behavioral variables, all had acceptable levels of reliability with the exception of the following variables with low reliability and/or low frequency: Adult: Speaks Negatively to Child, Teaches Social Rule, Positive Physical Contact, Negative/Restrictive Actions, Mutual Pretend Play, Child: Prosocial Act, Negative (non-aggressive) Act, Verbal Aggression, Physical Aggression, Says No/Refuses Adult, Acts Defiant, Negative Behavior Toward Child. The composites with low levels of reliability were Adult: Proportion of Positive/Negative Behavior Toward Child, Child: Proportion of Compliance, Autonomy Proportion, Defiance Proportion, High Level of Peer Play, Proportion of Negative Peer Interaction, and Total Child Aggression.

#### **36 Month Behavior Scales**

Although the 24 and 36 month ORCE are the same, reliabilities were calculated at each time point. Median Pearson Correlations for individual variables ranged from 0.08 to 0.99. All of the variables had acceptable levels of reliability with the exception of the following variables: Adult: Speaks Positively to Children, Speaks Negatively to Children, Teaches Social Rule, Negative Restrict Actions, Child: Activity Alone, Activity Without Objects, Verbal Aggression, Says No/Refuses.

Additionally, 18 behavioral composites were created. The ORCE developers write that, "four variables have such low 'gold standard' reliability estimates along with low Pearson correlations that ratification decisions for these variables at this time point should be cautiously made. The four composite variables are Negative Restricts

Action + Speaks Negatively to Child, Negative Restricts Actions + Speaks Negatively to Child/Activity with Child or Adult, Complies with Adult/Gives Direction to Child, and Says No/Asks Questions of Children + Gives Directions to Child”

#### **54 Month Behavior Scales**

Median Pearson Correlations ranged from 0.34 to 0.97. Four variables had correlations of less than 0.60: Adult: Negative Management, Teaches Academic Skill, Facilitates Learning, and Child: Says No/Refuses to Adult. Five behavioral composites were created and range in reliability estimates from 0.20 (Child Noncompliance) to 0.95 (Peer Agonism). The developers note that the reliability estimates for Child Noncompliance were low because one of the two components was not observed in the data.

#### ***Qualitative Ratings***

##### **6 Month Qualitative Scales**

- Adult: Median Pearson Correlations ranged from 0.55 to 0.94. All estimates were above 0.80 with the exception of Intrusiveness (0.55).
- Child: The reliabilities for Positive Mood, Negative Mood, and Positive Interaction with Peers fell between 0.69 and 0.89 indicating an acceptable level of reliability with these items. The reliabilities for Sociability and Sustained Attention were relatively low (0.45 and 0.51), and the reliability for Negative Interaction with Peers was considered low by the developers at 0.49. They note that this estimate was particularly surprising at 6 months.

##### **15 Month Qualitative Scales**

- Adult: Median Pearson Correlations ranged from 0.20 to 0.85. The estimates for Negative Regard for Child (0.20) and Intrusiveness into Child’s Activities (0.47) were relatively low.
- Child: The child qualitative variables had lower reliabilities than the adult reliabilities. All estimates were between 0.34 and 0.77. Only Positive Engagement with Caregiver (0.77) and Sociability (0.77) had acceptable levels of reliability.

##### **24 Month Qualitative Scales**

- Adult: Negative regard, Intrusion, and Flatness of Affect all showed poor reliability, with the remaining variables and two composite variables showing adequate reliability.
- Child: All estimates were between 0.47 and 0.76. Only Positive Engagement with Caregiver and Positive Mood had acceptable levels of reliability.

##### **36 Month Qualitative Scales**

- Adult: A composite variable including the eight individual variables was created and showed adequate reliability (0.80). Three of the individual

variables, flatness of affect, fostering exploration, and intrusion showed relatively low reliability (0.32 – 0.57).

- Child: The Pearson Correlations ranged from 0.57 – 0.93. The estimate for Child’s Level of Negative Mood was the lowest (0.57). Only two variables showed acceptable levels of reliability: Child’s Activity Level and Child’s Level of Positive Mood.

#### **54 Month Qualitative Scales**

- Adult: The Pearson Correlations ranged from 0.62 (Caregiver Detachment/Disengagement) to 0.76 (Caregiver Sensitivity/Responsivity). The caregiver composite had a reliability estimate of 0.73.
- Child: The Pearson Correlations ranged from low (0.20, Child Social Withdrawal) to high (0.83, Child Aggression/Angry Affect). The setting composite had a reliability of 0.75 and the arrangement composite 0.77.

#### **Validity Information**

##### *Construct Validity*

ORCE measures of child care “quality” were related to expectable structural variation such as level of caregiver education and adult-child ratio (see references below).

NICHD Early Child Care Research Network. (1996). Characteristics of infant child care: Factors contributing to positive caregiving. *Early Childhood Research Quarterly, 11*, 269-306.

NICHD Early Child Care Research Network. (2000). Characteristics and quality of child care for toddlers and preschoolers. *Applied Developmental Science, 4*, 116-135.

NICHD Early Child Care Research Network. (2002). Child-care structure → process → outcome: Direct and indirect effects of child-care quality on young children’s development. *Psychological Science, 13*, 199-206.

##### *Concurrent Validity*

ORCE measures of child care “quality” were related to expectable child measures such as cognitive performance, language, and social functioning (see references below).

NICHD Early Child Care Research Network. (2000). The relation of child care to cognitive and language development. *Child Development, 71*, 960-980.

NICHD Early Child Care Research Network. (2002). Early child care and children’s development prior to school entry: Results from the NICHD Study of Early Child Care. *American Educational Research Journal, 39*, 133-164.

NICHD Early Child Care Research Network. (2003). Does quality of child care affect child outcomes at age 4½? *Developmental Psychology, 39*, 451-469.

*Predictive Validity*

ORCE measures of child care “quality” were related to later child outcomes in the areas of cognitive performance, language, and social functioning (see references below).

NICHD Early Child Care Research Network. (2003). Social functioning in first grade: Associations with earlier home and child care predictors and with current classroom experiences. *Child Development, 74*, 1639-1662.

NICHD Early Child Care Research Network. (2002). Early child care and children’s development prior to school entry: Results from the NICHD Study of Early Child Care. *American Educational Research Journal, 39*, 133-164.

NICHD Early Child Care Research Network. (2003). Does quality of child care affect child outcomes at age 4½? *Developmental Psychology, 39*, 451-469.

**References**

Abbot – Shim, M., & Sibley, A. (1987). *Assessment Profile for Early Childhood Programs*. Atlanta, GA: Quality Assist.

Arnett, J. (1989). Caregivers in day-care centers: Does training matter? *Journal of Applied Developmental Psychology, 10*, 541-552.

Harms, T., & Clifford, R. M. (1980). *Early Childhood Environment Rating Scale*. New York, NY: Teachers College Press.

Harms, T., & Clifford, R. M. (1989). *Family Day Care Rating Scale*. New York, NY: Teachers College Press.

## Program Administration Scale (PAS)

### I. Background Information

#### Author/Source

*Source:* Talan, T. N., & Bloom, P. J. (2004). *Program Administration Scale: Measuring Leadership and Management in Early Childhood Programs*. New York, NY: Teachers College Press.

*Publisher:* Teachers College Press  
1234 Amsterdam Avenue  
New York, NY 10027  
[www.teacherscollegepress.com](http://www.teacherscollegepress.com)

#### Purpose of Measure

*As described by the authors:*

“The Program Administration Scale (PAS) was designed to serve as a reliable and easy-to-administer tool for measuring the overall quality of administrative practices of early care and education programs and as a useful guide to improve programs” (Talan & Bloom, 2004, p. 1).

“The PAS was constructed to complement the widely used observation-based classroom environment rating scales designed by Harms, Clifford, and Cryer...If used together these instruments provide a focused look at best practices at the classroom level and the broad view of program quality from an organizational perspective” (Talan & Bloom, 2004, p. 1).

#### Population Measure Developed With

The PAS was “designed for early childhood program administrators, researchers, monitoring personnel, and quality enhancement facilitators” (Talan & Bloom, 2004, p. 1).

“The sample for PAS reliability and validity study was drawn from early care and education programs in Illinois” (Talan & Bloom, 2004, p. 69).

#### Age Range/Setting Intended For

The PAS was developed for use in center-based or public school-based early care and education programs.

#### Ways in which Measure Addresses Diversity

The PAS includes a subscale examining family partnerships. The subscale includes items and indicators that assess communication with families about values, beliefs and cultural practices

### **Key Constructs & Scoring of Measure**

The *Program Administration Scale* measures both leadership and management functions of early childhood administration. Leadership functions include clarifying values, articulating a vision, setting goals, and charting a course of action to achieve those goals. Management functions relate to orchestrating tasks and developing systems to carry out the organizational mission.

The PAS includes 25 items that are clustered in 10 subscales. The subscales and items are as follows:

- *Human Resources Development* (3 items)
  - Staff orientation
  - Supervision and performance appraisal
  - Staff development
- *Personnel Cost and Allocation* (3 items)
  - Compensation
  - Benefits
  - Staffing patterns and scheduling
- *Center Operations* (3 items)
  - Facilities management
  - Risk management
  - Internal communications
- *Child Assessment* (2 items)
  - Screening and identification of special needs
  - Assessment in support of learning
- *Fiscal Management* (2 items)
  - Budget planning
  - Accounting practices
- *Family Partnerships* (2 items)
  - Family communications
  - Family support and involvement
- *Program Planning and Evaluation* (2 items)
  - Program evaluation
  - Strategic planning
- *Marketing and Public Relations* (2 items)
  - External communications
  - Community outreach
- *Technology* (2 items)
  - Technological resources
  - Use of technology
- *Staff Qualifications* (4 item)
  - Administrator
  - Lead Teacher
  - Teacher
  - Apprentice Teacher/Aide

## II. Administration of Measure

### **Who Administers Measure/Training Required**

*Test Administration:* Administrators of the PAS include directors, assistant directors, or program administrators, and trained independent assessors, such as researchers, consultants and program evaluators.

*Training Required:* The McCormick Tribune Center for Early Childhood Leadership provides four types of training experiences, which they describe on their website (<http://cecl.nl.edu>). The trainings are described as follows:

- Widening the Lens – When the goal is expanding awareness of the importance of assessing quality from a total organizational perspective. This 1-2 hour overview training is designed for center directors, managers, technical assistance specialists, college instructors, researchers, and policymakers.
- Leading the Way to Quality – When the goal is program self-improvement. This 1-2 day training is designed for center directors and managers and is delivered in an interactive workshop format.
- Supporting Directors as the Gatekeepers to Quality – When the goal is quality facilitation. This 2-3 day training is designed for technical assistance specialists, mentors, and consultants who are involved in quality enhancement initiatives and is delivered in an interactive workshop format.
- PAS Assessor Reliability Training – When the goal is research, evaluation, or monitoring quality. This 4 day intensive training seminar is designed for researchers, program evaluators, technical assistance specialists, and consultants.

### **Setting**

For formal assessments, interviews are set-up with the program administrator at the site, which enables access to required documents for the visit.

### **Time Needed and Cost**

*Time:* For formal assessments, the authors recommend a time frame of two hours for an interview with the on-site administrator and an additional 2 – 4 hours for a review of required documents.

*Cost:* The PAS is \$17.95 and can be purchased from New Horizons or Teachers College Press. A new book is needed each time the PAS is administered.

## III. Functioning of Measure

### **Reliability Information**

“A reliability and validity study of the PAS was conducted in 2003 involving 67 center-based early childhood programs. Data generated from the reliability and validity study were used to make revisions in the wording of different indicators, delete redundant items, and streamline the data-collection protocol” (Talan & Bloom, 2004, p. 69).

A pool of 176 programs was developed representing urban, suburban, and rural geographic regions as well as programs varying by accreditation status and size of the center (small, medium, and large). From the pool, 124 centers were randomly contacted and invited to participate in the reliability and validity study. Slightly more than half (67) agreed to participate. The participating centers were equally split between accredited (48%) and not accredited (52%). Two-thirds of the participating programs were nonprofit. It should be noted that the 67 programs participating in the pilot did not receive a copy of the instrument prior to the administration of the scale by a trained assessor. It is anticipated that as the PAS is used broadly, the percentage of programs scoring a level 1 on items will decrease as on-site administrators prepare the documentation needed to verify each indicator.

#### *Inter-rater Reliability*

“Inter-rater reliability was determined during training on the use of the instrument with eight early childhood assessors. Using a videotape of the entire interview protocol, assessors were rated on how often they matched the PAS anchor’s scores within 1 point for each item. Individual assessor’s inter-rater reliability scores ranged from 81% to 95% agreement on the 25 items. Overall inter-rater reliability was 90% for the eight assessors used in the PAS pilot” (Talan & Bloom, 2004, p. 72).

#### *Internal Consistency*

Internal consistency was determined through computation of Cronbach’s Alpha coefficient on the Total PAS scores from the 67 sites in the reliability and validity study. Coefficient alpha for the Total PAS was .85.

### **Validity Information**

#### *Content Validity*

Content validity was established by a panel of 10 early childhood experts who evaluated each indicator, item, and subscale on the PAS to ensure the key leadership and management practices of center-based early childhood programs were included (Talan & Bloom, 2004, p. 70). It was also reviewed informally by 10 other early childhood administrators, consultants, and trainers.

#### *Construct Validity*

The 10 subscales were correlated to determine the extent to which they measured distinct, though somewhat related, aspects of early childhood administration. Subscale intercorrelations ranged from .09 to .63, with a median value of .33, confirming that the subscales for the most part, measure distinct characteristics of organizational administration.

#### *Criterion Validity*

The authors used accreditation status as a proxy for program quality and compared Total PAS scores between programs accredited by the National Association for the Education of Young Children and those not currently accredited. Accredited programs had higher scores on the PAS ( $M=92.12$ ,  $SD=19.43$ ) than not-accredited programs ( $M=72.06$ ,  $SD=20.83$ ) (ANOVA,  $F=16.59$ ,  $p < .0001$ ).

*Concurrent Validity*

Concurrent validity was determined by a correlational analysis with two other instruments that measure early childhood organizational effectiveness: the Opportunities for Professional Growth subscale of the *Early Childhood Work Environment Survey* (Bloom, 1996) and the Parents and Staff subscale of the *Early Childhood Environment Rating Scale-Revised* (Harms, Clifford, & Cryer, 1998). There was a moderate correlation with both the ECERS-R and ECWES, which indicates that the PAS measures are related to, but not redundant of, characteristics of organizational quality (Talan & Bloom, 2004, p. 73).

**References**

- Bloom, P. J. (1996). *Improving the quality of work life in the early childhood setting: Resource guide and technical manual for the Early Childhood Work Environment Survey*. Wheeling, IL: McCormick Tribune Center for Early Childhood Leadership, National-Louis University.
- Harms, T., Clifford, R., & Cryer, D. (1998). *Early Childhood Environment Rating Scale – Revised*. New York: Teachers College Press.

# The Preschool Classroom Implementation Rating Scale (PCI)

## I. Background

### Author/Source

*Source:* Frede, E. C., & Miller, A. K. (1990). *Preschool Classroom Implementation Rating Instrument – High/Scope Manual*.

*Publisher:* The PCI is unpublished, but available from the first author at [efrede@tcnj.edu](mailto:efrede@tcnj.edu).

### Purpose of Measure

The Preschool Classroom Implementation Rating Scale (PCI) was originally developed to measure treatment fidelity of the High/Scope curriculum. A shortened, more general version was later developed. “Embedded within the PCI is a subscale that measures general quality factors for a cognitive-developmental classroom. This subscale forms the basis for the PCI-CD (CD for Cognitive/Development) which adheres to the constructive philosophy of the original instrument but deletes those items which are specific to the High/Scope approach” (Frede & Miller, 1990, p. 1).

“The PCI is a checklist of adult behaviors or environmental factors determined by the adult. The behaviors included in the instrument are all deemed to be indicators of quality in a cognitive-developmental or constructivist classroom” (Frede & Miller, 1990, p. 1).

“The PCI differs from some other observation instruments in that it does not measure micro-level interactions, nor does it inventory teaching techniques which should be seen in classrooms using other approaches such as direct instruction. The PCI by itself does not provide information on aspects of quality other than teacher behavior or the learning environment” (Frede & Miller, 1990, p. 1).

### Population Measure Developed With

The PCI was developed based on preschool classrooms including children with disabilities and mixed family incomes.

### Age Range/Setting Intended For

The PCI was developed for use in programs for children ages three through six. “It is appropriate for observing programs in preschool or kindergarten classrooms in public or private schools, day care centers, Head Start, or church programs” (Frede & Miller, 1990, p. 2).

### Ways in Which Measure Addresses Diversity

The instrument looks at specific teaching strategies but not content so while strategies that help children develop social competence are included, specific anti-bias or multicultural education strategies are not included.

### **Key Constructs & Scoring of Measure**

The PCI has 52 items in 12 subscales. Each item is given a rating of not observed, not evident, evident, or optimal. The subscales and items are as follows:

- *Room Arrangements* (8 items)
  - Activity areas are clearly defined
  - Traffic flow is not impeded by boundaries
  - Materials are logically arranged
  - Materials are labeled
  - Materials are easily accessible to children
  - There is sufficient amount of unstructured material in each area
  - Real tools and household equipment are available
  - A wide variety of books that are age-appropriate and always accessible in an inviting location in the room
- *Daily Routine* (4 items)
  - Time periods have specific names which children are helped to learn
  - Routine is consistent from day to day
  - Adults help children make transitions from one part of routine to another
  - The planning time, work time, recall time sequence is not interrupted
- *Planning Time* (3 items)
  - Adults meet with the same group of children daily
  - The planning process is made interesting and stimulating to the children
  - Individual children plan according to their ability
- *Work Time/Free Play* (2 items)
  - Work time is 45 minutes long
  - Children are involved in child-initiated activities and are free to move from one activity to another
- *Clean-Up Time* (2 items)
  - Adults use appropriate strategies to encourage clean-up
  - Adults take advantage of opportunities for incidental teaching of the key experiences
- *Recall Time* (2 items)
  - Adults have recall with the same group of children with which they are planned
  - Adults use a variety of strategies to make recall time interesting to children in their groups
- *Small Group Time* (5 items)
  - Adults have materials ready for small group time
  - Every child has his own materials at small group time
  - Small group activities allow each child to make choices
  - Small group activities have a key experience focus, but children respond according to their own abilities
  - Each small group is well-organized with a beginning, middle, and end

- *Outside Time* (3 items)
  - A variety of equipment and materials are available for children to exercise their large muscles and explore and learn from the environment
  - Children are involved in self-directed play during outside time
  - Adults take advantage of opportunities for incidental teaching
- *Circle Time* (3 items)
  - Adults have specific roles in the circle activity
  - Circle activities allow children to get involved in some way and have input
  - Adults take advantage of opportunities for incidental teaching
- *Teacher/Child Interactions* (14 items)
  - Adults extend children's activities and problem-solving by introducing new material
  - Adults extend children's activities and problem-solving by incorporating representation
  - Adults extend children's dramatic play by joining in
  - Adults help children with basic reading and writing skills when children show an interest
  - Adults model new possibilities by playing alongside children
  - Adults make specific comments that extend children's thinking and language and the focus on key experiences
  - Adults extend children's activities and problem solving by making suggestions
  - Adults extend children's activities and problem-solving by asking open-ended and thought provoking questions
  - Adults refer children's questions and comments to other children
  - Adults help children compare number and amount in a functional way
  - Adults expect children to do things for themselves when possible
  - Adults model appropriate communication techniques
  - There is a balance between teacher talk and child talk throughout the day
  - Adults provide children with suggestions for coping with their feelings
- *Classroom Management and Organization* (5 items)
  - Adults turn inappropriate behavior into a problem-solving situation
  - Adults interact with an individual child or small group while maintaining awareness of classroom
  - Adults minimize time spent waiting
  - Adults set reasonable limits, explaining them, and maintaining them
  - Adults use positive guidance techniques
- *Team Evaluation and Planning* (2 items)
  - The classroom staff meets daily to plan and evaluate the day's activities as well as to evaluate the children's progress. The process focuses on the key experiences.
  - Adults use a naturalistic observation method to measure each child's progress in relation to the key experiences. Adults are asked if they use a record-keeping system for evaluating children's progress. If a record-keeping system is used, adults are asked how they use the information.

## II. Administration of Measure

### **Who administers Measure/Training Required**

*Test Administration:* Information on test administration was not available in materials reviewed.

*Training Required:* Training on the PCI can take anywhere from three days to two weeks. Training should be ongoing while the observer is using the PCI.

### **Setting**

The PCI is designed for use in programs for children ages three through six which use the High/Scope curriculum. The PCI-CD can be used in all preschool settings regardless of curriculum.

### **Time Needed and Cost**

*Time:* The authors suggest that observers spend at least one full day in each classroom and observe the classrooms multiple times over the course of a year. Observations should not be made during the first six weeks of the school year, nor prior to or immediately after a holiday.

## III. Functioning of Measure

### **Reliability Information**

#### *Internal Consistency*

The Cronbach's alpha of this scale is .89.

### **Validity Information**

#### *Concurrent Validity*

The PCI has been found to be significantly correlated with the ECERS-R ( $r = .6$ ,  $p < .01$ ).

## Preschool Program Quality Assessment, 2<sup>nd</sup> Edition (PQA)

### I. Background Information

#### Author/Source

*Source:* High/Scope Educational Research Foundation. (2003). *Preschool Program Quality Assessment, 2<sup>nd</sup> Edition (PQA) Administration Manual*. High/Scope Press: Ypsilanti, MI.

*Publisher:* High/Scope Press. A division of the High/Scope Educational Research Foundation. Ypsilanti, Michigan.  
[www.highscope.org](http://www.highscope.org)

#### Purpose of Measure

*As described by the authors:*

“The Preschool Program Quality Assessment (PQA), Second Edition, is a rating instrument designed to evaluate the quality of early childhood programs and identify staff training needs. Developed by High/Scope Educational Research Foundation, it is appropriate for use in all center-based settings, not just those using the High/Scope educational approach. The Preschool PQA intentionally reflects “best practices” in early childhood education as a whole. The measure identifies the structural characteristics and dynamic relationships that effectively promote the development of young children, encourage the involvement of families and communities, and create supportive working environments for staff” (High/Scope Educational Research Foundation, 2003, p. 1).

The PQA can be used for a variety of purposes including both pre-service and in-service training initiatives, self-assessment and monitoring. The PQA can also be used to conduct observations and provide feedback to staff. In addition, the Preschool PQA can be used as a research tool when administered by trained outside observers to document program practices, compare quality, examine the relationship between quality of care and children’s outcomes, and evaluate the effectiveness of staff development initiatives. Finally, the Preschool PQA can be used to explain research-based practices to a variety of individuals and agencies including administrators, policymakers, and support staff in the preschool (High/Scope Educational Research Foundation, 2003).

#### Population Measure Developed With

The current version of the PQA is a revision of earlier versions of the PQA. There are two notable differences: 1) the number of content areas has increased from four to seven, and 2) the scoring system has been revised to adequately measure the full range of quality along each quality construct.

The revised PQA was field tested in two research projects: the 2000 cohort of Phase 2 of the Michigan School Readiness Program (MSRP) evaluation with a sample of 19 classrooms and 2,000 children (Smith, Jurkiewicz, & Xiang, 2002), and the Michigan

Full-Day Preschool Comparison Study with two cohorts comprising 121 and 132 classrooms (Jurkiewicz, 2003). A broad range of public and private early childhood settings were represented by these samples, permitting rigorous testing of the psychometric properties of the new PQA.

**Age Range/Setting Intended For**

The PQA is appropriate for use in all preschool settings, regardless of whether the center is using the High/Scope educational approach.

**Ways in which Measure Addresses Diversity**

One item in Section I, the “Learning Environment,” rates the extent to which materials in the classroom “reflect human diversity and the positive aspects of children’s homes and community cultures”. Raters note the extent to which materials reflect the home and community cultures, special needs of children in the program, and a wide range of non-stereotyped role models and cultures. Raters also note the extent to which multicultural materials are integrated into the classroom.

**Key Constructs of Measure**

The PQA is comprised of seven areas of program quality, three of which are based on classroom observation, and four of which are based on interviews with teachers and/or directors. The first four areas are classroom-specific, while the latter three are program-specific. Each area has between 5 and 13 items, with several indicators per item. Raters score each indicator on a 5-point scale. The administration manual provides a detailed description of the scoring procedures. The areas of program quality and items are summarized below.

**Classroom Items**

- *Learning Environment* (9 items)
  - Safe and healthy environment
  - Defined interest areas
  - Logically located interest areas
  - Outdoor space, equipment, materials
  - Organization and labeling of materials
  - Varied and open-ended materials
  - Plentiful materials
  - Diversity-related materials
  - Displays of child-initiated work
- *Daily Routine* (12 items)
  - Consistent daily routine
  - Parts of the day
  - Appropriate time for each part of day
  - Time for child planning
  - Time for child-initiated activities
  - Time for child recall
  - Small-group time

- Large-group time
- Choices during transition times
- Cleanup time with reasonable choices
- Snack or meal time
- Outside time
- *Adult-Child Interaction* (13 items)
  - Meeting basic physical needs
  - Handling separation from home
  - Warm and caring atmosphere
  - Support for child communication
  - Support for non-English speakers
  - Adults as partners in play
  - Encouragement of child initiatives
  - Support for child learning at group times
  - Opportunities for child exploration
  - Acknowledgement of child efforts
  - Encouragement for peer interactions
  - Independent problem solving
  - Conflict resolution
- *Curriculum Planning and Assessment* (5 items)
  - Curriculum model
  - Team teaching
  - Comprehensive child records
  - Anecdotal note taking by staff
  - Use of child observation measure

### **Agency Items**

- *Parent Involvement and Family Services* (10 items)
  - Opportunities for involvement
  - Parents on policy-making committees
  - Parent participation in child activities
  - Sharing of curriculum information
  - Staff-parent informal interactions
  - Extending learning at home
  - Formal meetings with parents
  - Diagnostic/special education services
  - Service referrals as needed
  - Transition to kindergarten
- *Staff Qualifications and Staff Development* (7 items)
  - Program director background
  - Instructional staff background
  - Support staff orientation and supervision
  - Ongoing professional development
  - In-service training content and methods

- Observation and feedback
- Professional organization affiliation
- *Program Management* (7 items)
  - Program licensed
  - Continuity in instructional staff
  - Program assessment
  - Recruitment and enrollment plan
  - Operating policies and procedures
  - Accessibility for those with disabilities
  - Adequacy of program funding

## **Comments**

### **II. Administration of Measure**

#### **Who Administers Measure/Training Required**

*Test Administration:* The measure may be administered by independent raters including researchers, program evaluators, outside consultants or agency administrators. In addition, site staff including directors, early childhood specialists, curriculum coordinators, teachers, or parents may also complete it as part of a self-assessment. Students may also use their PQA observations as part of their training to become teachers or caregivers.

*Training Required:* Training to acceptable levels of inter-rater reliability on the PQA takes 2 days. The first day is devoted to reviewing and practicing the PQA, using anecdotes and raw-footage videotapes. The second day is used to conduct actual observations and determine inter-rater reliability.

#### **Setting**

The PQA is administered in preschool classrooms.

#### **Time Needed and Cost**

*Time:* “It is recommended that raters spend at least one full day reviewing a program before completing PQA ratings, allocating a half-day to observing in the classroom (first three sections) and a half-day to conducting interviews (last four sections). If more than one classroom in a center is to be rated, the rater should visit each classroom for a half-day to complete the observations sections and to interview the head teacher” (High/Scope Educational Research Foundation, 2003, p. 5).

*Cost:* The cost of the PQA is \$25.95.

### III. Functioning of Measure

#### **Reliability Information**

##### *Inter-rater Reliability*

Pairs of raters were sent to 10 classrooms to observe the learning environment, daily routine, and adult-child interaction. Pearson's correlations were calculated to be 0.57 for learning environment ( $p < 0.10$ ), 0.75 for daily routine ( $p < 0.05$ ), and 0.74 for adult-child interaction ( $p < 0.05$ ).

##### *Internal Consistency*

"To assess internal consistency, Cronbach's alpha was calculated on five quality constructs (learning environment, daily routine, adult-child interaction, curriculum planning and assessment) and total PQA scores. There was insufficient data to determine internal consistency on the other two constructs (staff qualifications and development, and program management) since these were only rated once at the agency level rather than for each classroom. . . Internal consistency for the new version was calculated with 185 classrooms in three samples. . . and averaged 0.93, with all but two of the results within the acceptable range of 0.70 to 0.90" (High/Scope Educational Research Foundation, 2003, p. 11).

#### **Validity Information**

##### *Concurrent Validity*

"The validity of quality constructs within sections I through V of the revised PQA was assessed in relationship to the Teacher Beliefs Scale. . . The PQA was significantly correlated, in the expected positive or negative direction, with appropriate and inappropriate teacher beliefs and practices. With one exception [(the correlation between the learning environment of the PQA and appropriate practices of the Teacher Beliefs Scale,  $r = 0.16$ )], all correlations were significant and ranged in magnitude from 0.28 to 0.49" (High/Scope Educational Research Foundation, 2003, p. 12).

##### *Predictive Validity*

PQA scores are significantly related to children's developmental outcomes, both while children are in preschool, and kindergarten, and is associated with established measures of child development (e.g. DIAL-R, High/Scope COR) and teacher ratings.

##### *Confirmatory Factor Analysis*

"A confirmatory factor analysis was conducted with sections I through V using a sample of approximately 150 classrooms. . . Five factors emerged, accounting for 58% of the variance, and their content aligned with the five corresponding PQA sections: Learning Environment, Daily Routine, Adult-Child Interaction, Curriculum Planning and Assessment, and Parent Involvement and Family Services. Factor loadings ranged from 0.43 to 0.82, with the majority (64%) at 0.60 or higher. However, several daily routine items, notably those related to group times (e.g., small- and large-group time), loaded on the adult-child factor. These items were modified in the final version of the PQA" (High/Scope Educational Research Foundation, 2003, p. 12).

**References**

- Jurkiewicz, T. (2003). *The Revised Preschool PQA: Report on psychometric properties*. Instrument evaluation report to the Michigan Department of Education. Ypsilanti, MI: High/Scope Educational Research Foundation, Research Division.
- Smith, C., Jurkiewicz, T., & Xiang, Z. P. (2002). *Program quality in Michigan School Readiness Program classrooms: Classroom characteristics, teacher beliefs, and measurement issues*. Evaluation report to the Michigan Department of Education. Ypsilanti, MI: High/Scope Educational Research Foundation, Research Division.

# Quality of Early Childhood Care Settings: Caregiver Rating Scale (QUEST)

## I. Background Information

### Author/Source

*Source:* Goodson, B. D., Layzer, J. I., & Layzer, C. J. (2005) *Quality of Early Childhood Care Settings: Caregiver Rating Scale (QUEST)*. Abt Associates Inc.: Cambridge, MA.

*Publisher:* Abt Associates Inc.  
55 Wheeler Street  
Cambridge, MA

### Purpose of Measure

*As described by authors:*

“The Caregiver Rating Scale is based on the most up-to-date research on practices that are associated with children’s development and learning. The rating scale focuses on caregiver warmth/responsiveness and on caregiver support for the child’s development in four important areas—cognitive development, especially language development and early literacy; emotional development; social development; and physical development” (Goodson, Layzer, & Layzer, 2005, p. 5-1).

### Population Measure Developed With

The QUEST was developed for use in the National Study of Child Care for Low-Income Families. A major component of this study was a longitudinal study of 650 families using family child care for their children aged one to nine years, and of the family child care providers themselves. Because the study was intended to include a large number of informal providers as well as children across a wide age-range, and followed children when they moved into center-based settings, the developers found no existing measures that were suitable for use across settings.

### Age range/Setting Intended For

This measure was intended for use in a variety of settings from informal care to formal center-based care for children 0 to 5 years of age.

### Ways in which measure addresses diversity

The QUEST includes 3 items that ask about the caregiver’s support for English language learners in the group.

### Key Constructs & Scoring of Measure

The current version of the QUEST consists of two measures: the Environment Checklist and the Provider Rating. The Environment Checklist assesses health and safety issues as well as the adequacy and appropriateness of resources in the care environment. The Provider Rating assesses caregiver interactions and behaviors.

The QUEST Environmental Checklist consists of the following subscales:

- *Space and Comfort* (10 items)
- *Equipment and Materials to Support Developmentally-Appropriate Play* (6 items for children < 1; 8 items for children 1 – 3 years; 8 items for children 3 – 5; 7 items for school-aged children)
  - Outdoor Toys and Equipment (1 item for each age group)
- *Equipment and Materials to Support Language and Literacy Development* (12 items)
- *Indoor Safety and Health*
  - Home Furnishings and Materials Equipment (12 items)
  - Exits and Stairs (5 items)
  - Pets (2 items)
- *Daily Routines*
  - Food Preparation, Snack and Meals, Toileting (19 items)
  - Rest Time/Napping (3 items)

Observers rate each item on a scale from 1 (Not true; Little or No Evidence) to 3 (Usually/Always True; Consistent Evidence). Definitions/examples are provided at each scale point for each item.

“The QUEST Caregiver Rating Scale assesses six main aspects of caregiver behavior in the classroom” (Goodson et al., 2005, p. 5-1).

- *The Caregiver with Children*
  - Caring and responding (10 items)
  - Using positive guidance and discipline (9 items)
  - Supervision (4 items)
  - Does no harm (5 items)
- *Supporting Social-Emotional Development* (8 items)
- *Supporting Play* (4 items)
- *Supporting Cognitive Development*
  - Instructional Style (5 items)
  - Learning activities and opportunities (11 items)
- *Supporting Language Development and Early Literacy* (11 items)
- *Television and Computers* (2 items)

“The recommended procedure for completing the scale involves three steps: First, the observer collects data on the caregiver’s behavior over the entire observation period but only completes the ratings provisionally as additional relevant evidence is observed. Second, at the end of the entire observation period, the observer reviews the provisional codes, revising as needed, and selects a final rating for each code. . . Third, in the final step in the coding, the observer completes the nine summary ratings at the end of the rating scale” (Goodson et al., 2005, p. 5-2).

Observers rate each item on a scale from 1 (Not True; Rarely True; Little/No Evidence) to 3 (Usually/Always True; Consistent Evidence). Definitions/examples are provided at each scale point for each item.

## **II. Administration of Measure:**

### **Who administers Measure/ Training Required**

*Test Administration:* Trained researchers or investigators administer the measure.

*Training Required:* Each of the two measures requires a day of training with an additional half-day introduction to the battery and how it should be administered in specific settings.

### **Setting**

For the National Study of Child Care for Low-Income Families the measures were used across a variety of settings from grandmother care to formal center-based care.

### **Time Needed and Cost:**

*Time needed:* Each of the two measures requires a day of training with an additional half-day introduction to the battery and how it should be administered in specific settings.

*Cost:* The cost of the materials is the cost of reproducing the measures and training manuals. The cost of training is \$2500 for up to 10 trainees, plus expenses.

## **III. Functioning of Measure**

### **Reliability Information**

#### *Inter-rater Reliability*

Paper and pencil tests of observer reliability achieved 85% agreement or better on individual items.

### **Validity Information**

No information is available to date on the validity of the QUEST measure, although two studies have used the QUEST alongside the ECERS and the FDCERS, which will be the basis for validity analyses.

## **Ramey and Ramey Observation of Learning Essentials (ROLE)**

### **I. Background Information**

#### **Author/Source**

*Source:* Ramey, S. L. & Ramey, C. T. (2002). *The Ramey Observation of Learning Essentials (ROLE)*, Washington, DC: Georgetown University Center for Health and Education.

*Publisher:* This measure is currently unpublished.

#### **Purpose of Measure**

*As described by the authors:*

“The ROLE is a quantitative observational tool that describes the type of classroom management, mentoring in basic skills, exploration, and development that the teacher is providing to students in the classroom on a minute-by-minute basis.” (Ramey & Ramey, 2002, p. 1). It is based on a comprehensive review of scientific findings that identified seven “essential” environmental transactions that are associated with higher levels of learning and academic achievement in school (Ramey & Ramey, 1999a; Ramey & Ramey, 1999b).

#### **Population Measure Developed With**

The ROLE was developed and then used in 40 pre-K and Head Start classrooms in Montgomery County, Maryland’s public schools.

#### **Age Range/Setting Intended For**

The ROLE is appropriate for use in Pre-Kindergarten classrooms serving 3 and 4 year old children.

#### **Ways in which Measure Addresses Diversity**

The ROLE does not specifically address diversity in the classroom.

#### **Key Constructs & Scoring of Measure**

“Observations are conducted throughout the whole classroom day in 5 minute-by-minute intervals, with 2 minutes in between to write notes. During each of the 5 minutes of observation, the observer codes the teacher-child and the paraeducator-child interactions. Each minute’s entry includes a code of: the primary learning context; the presence of the teacher, paraeducator, and/or other adult (designated); and the content of the adult-child interaction, if any, in terms of science-based ‘learning essentials.’ There also are codes for other adult behavior that do not relate to child transactions, such as cleaning/organizing, administration, and non-class-related activities. During the 2-minute interval, the observer records general information about: the number of adults and children present, the content and type of educational

and other activities; and rates the emotional tone in the classroom (Ramey & Ramey, 2002, p. 1).

- *Instructional value.* This is a rating of the quality of instruction and is measured on a 6 point scale, where 0 indicates ‘no instruction’ and a 5 indicates “excellent instruction.”
- *Emotional tone.* “Emotional tone measures the entire classroom climate for the observed 5 minutes, with a focus on the teacher’s tone with the students” (Ramey & Ramey, 2002, p. 2). Scores range from 1 to 4, with a 1 indicating “very negative”, and a 4 indicating “highly positive.”

In addition to the two constructs listed above, minute-by-minute ratings of fifteen teacher-child interactions are also assessed. Observers rate each activity with an ‘I’ if the interaction between the teacher/paraeducator and the child is addressed at only one child and there is no other learning opportunity for the surrounding children, and an ‘X’ if it is a large group or small group interaction. If the activity is not present, the code for the specific interaction is left blank. Brief descriptions of the fifteen activities/opportunities for interaction are presented below.

- *Encourage exploration.* The teacher actively promotes curiosity and exploration of the physical and mental world and the child is encouraged to use senses to independently investigate the world around him/her.
- *Language/literacy/writing.* Working with children on writing, vocabulary, letter sounds, print awareness, reading, and activities which allow children to enhance oral language skills
- *Recreational reading/song/dance.* Reading, singing, or dancing with children that does not introduce any new academic skills or concepts.
- *Math/science/reasoning.* Instruction involving elementary math and science concepts as well as basic reasoning such as sorting, sequence, and patterns.
- *Other instruction.* Includes such activities as instruction involving fine motor skills, arts and crafts and teaching basic hygiene and activities.
- *Celebrate development-specific new skills/academic advancement.* Celebration of a specific, cognitive/intellectual/academic skills or school-related task.
- *Celebrate development—non-academic/general.* General positive affirmations with no academic link.
- *Socialization: guidance and limitation.* Instruction related to the socialization of children to teach which behaviors are acceptable and which are not.
- *Management/monitoring/general supervision.* Phrases used to monitor conduct in a way that does not limit age appropriate behavior, to transition to the next activity, or to check in on students without formal instruction.
- *Unnecessary classroom restrictions.* Unnecessary and inappropriate orders given to children to manage the classroom, eliciting an obedience type of response to a restriction that is inappropriate to the setting and age group.
- *Negative/harsh treatment.* Inappropriate, excessively harsh words of physical treatment of the child.

- *Administrative/cleaning/organizing.* Performing administrative tasks or cleaning and organizing the classroom lasting at least 10 seconds.
- *Conversation with mentor or other school official.* Teacher is communicating with other mentor or other school official.
- *Child assessments.* Teacher is performing formal assessments on children.
- *Non-school related.* Teacher is performing any task that is not related to school.

## II. Administration of Measure

### **Who Administers Measure/Training Required**

*Test Administration:* The test is administered by trained research associates.

*Training Required:* Extensive training and practice (about 1 to 2 weeks) is required to gain a full grasp of each of the observed activities.

### **Setting**

The ROLE is conducted in the classroom setting.

### **Time Needed and Cost**

*Time:* Observations are conducted for two to three hours to capture a large range of activities.

*Cost:* The ROLE is free.

## III. Functioning of Measure

### **Reliability Information**

#### *Inter-rater reliability*

There are 15 codes/categories on the ROLE (encourage exploration, language/literacy/writing, etc.) and 3 sets of totals that are created for each type of instructional personnel (teacher, instructional assistant, other) creating 45 summary scores per worksheet. Teams of two observers visited 11 classrooms to provide data that would allow inter-rater reliability estimates to be computed. Descriptive statistics were used to explore the degree to which the two raters agreed across the 11 classroom visits. There are a possible 495 cells available for analysis (15 codes/categories x 3 totals x 11 observations).

Raters were in 100% agreement for 320 of the 495 cells (65%). Correlation coefficients between raters across the 11 classroom observations, code/category and instructional personnel range from .91 to 1.00. These correlation coefficients were all statistically significant. There were 175 cells (35%) for which raters' summary scores were different by some frequency between 1 and 13. The majority of the differences were off by a frequency of one ( $86/175 = 49\%$ ). An example of this instance would be one rater counted that the teacher provided language/literacy/writing mentoring 25 times across the entire observation while the

other rater counted that the teacher provided only 24 instances of the same mentoring. Rater discrepancies were deemed large when the frequency difference between raters was greater than or equal to four. Only 40 out of 495 (8%) cells had large discrepancies. These most often reflected codes that occurred with very high frequency throughout the day.

### **Validity Information**

Validity analyses are now underway using longitudinal data and assessments from the ELLCO and curriculum fidelity checklists used in the classrooms. Child outcome data will be related to items and factor scores from research conducted in more than 40 classrooms.

### **Comments**

Future development of the ROLE will involve: (a) an adapted form for use in community-based child care centers and family child care; (b) psychometric research to ascertain the minimum length of time for a ROLE observation session to yield a valid profile of the adult-child transactions throughout the day; (c) the relationship of global classroom rating systems, such as the CLASS (Pianta) and the CIS (Arnett), to this objective, quantitative methodology; and (d) assessment of the usefulness of classroom profiles generated by the ROLE to assist teachers in improving the amount and quality of instructional activities for children.

### **References**

- Ramey, C. T., & Ramey, S. L. (1998). Early intervention and early experience. *American Psychologist, 53*, 109-120.
- Ramey, C. T., & Ramey, S. L. (1999a). *Right from birth: Building your child's foundation for life*. New York: Goddard Press.
- Ramey, S. L., & Ramey, C. T. (1999b). *Going to school: How to help your child succeed*. New York: Goddard Press.

## Ready School Assessment (RSA)

### I. Background Information

#### Author/Source

*Source:* High/Scope Educational Research Foundation. (2006). *Ready School Assessment: Administration Manual*. High/Scope Press: Ypsilanti, MI.

High/Scope Educational Research Foundation. (2006). *Ready School Assessment: Team Handbook*. High/Scope Press: Ypsilanti, MI.

High/Scope Educational Research Foundation. (2006). *Ready School Assessment: Questionnaire*. High/Scope Press: Ypsilanti, MI.

*Publisher:* High/Scope Press  
[www.highscope.org](http://www.highscope.org)  
[www.readyschoolassessment.net](http://www.readyschoolassessment.net)

#### Purpose of Measure

*As described by the authors:*

“The focus of the Ready School Assessment (RSA) is on the general policies and practices of a school, with particular emphasis on those that are relevant to the K – 2<sup>nd</sup> grade classrooms, teachers, children, and parents. The RSA is a planning tool designed to provide school improvement teams with a developmental profile of the strength of readiness features in their school” (High/Scope Educational Research Foundation, 2006, p. 1).

#### Population Measure Developed With

Pilot testing of the RSA was conducted in the 2004-2005 school year. For the pilot test, 71 schools in 17 states were recruited and received training. Of these schools, 69 schools from 16 states returned completed data. “Within those 69 schools, 51% identified themselves as urban, 21% as rural, and 25% as suburban (3% defined themselves as “other”). All pilot schools but one were public schools and had an average enrollment of 480 children. Eighty-eight percent of the schools had a pre-kindergarten program in their building or on the same campus, and 86% of the schools has at least some full-day kindergarten classrooms. In addition, 72.7% of the children in the pilot schools were eligible for free or reduced lunch” (High/Scope Educational Research Foundation, 2006, p. 9).

#### Age Range/Setting Intended For

The measure is intended for elementary schools with an emphasis on pre-K - 2 classrooms, teachers, children, and parents.

### **Ways in which Measure Addresses Diversity**

One of the 8 dimensions measured by the Ready School Assessment is Respecting Diversity. The key construct assessed in this dimension are: Teaching Diversity, Supporting a Diverse Environment, and Working with Special Needs. The tool defines diversity as class, gender, family background and experiences, and special needs.

### **Key Constructs & Scoring of Measure**

The Ready School Assessment identifies eight major dimensions of what it means to be a “ready school.” Items are assessed on a scale from “Never” to “Always”, Yes and No questions, and numerical frequency questions.

- *Leaders and Leadership* (14 items)  
The Principal advocates for and leads the ready school.
  - Principal’s commitment
  - Professional Climate
  - Early Childhood Training and Experience
- *Transitions* (18 items)  
School staff and parent groups work with families, children, and their preschool teachers and caregivers before kindergarten and with families and children during kindergarten to smooth the transition from home to school.
  - Transition activities
  - Contact with Pre-K
  - Entry & Promotion
- *Teacher Supports* (11 items)  
The school organizes classrooms, schedules, teams, and staff activities to maximize the support for all adults to work effectively with children during the school day.
  - Professional Development
  - Contact with Others
- *Engaging Environments* (21 items)  
The school’s learning environments employ elements that make them warm and inviting, and actively engage children in a variety of learning activities.
  - Safety & Health
  - Materials
  - Classroom Climate
  - Active Learning
- *Effective Curricula* (13 items)  
The school diligently employs educational methods/materials shown to be effective in helping children achieve objectives required for grade-level proficiency.
  - Curriculum Training
  - Monitoring Fidelity
- *Family, School, and Community Partnerships* (19 items)  
The school takes specific steps to enhance parents’ capacities to foster their children’s readiness and to support children’s learning in and outside of school.
  - Family Involvement in School

- Parent-School Communication
- Outreach
- *Respecting Diversity* (20 items)  
The school helps all children succeed by interacting with children/families in ways that are compatible with individual needs and family backgrounds or life experiences.
  - Teaching Diversity
  - Supporting a Diverse Environment
  - Working with Special Needs
- *Assessing Progress* (13 items)  
School staff engage in ongoing improvement based on information that rigorously and systematically assesses classroom experiences, school practices that influence them, and children’s progress toward curricular goals.
  - Assessment Mechanisms
  - Using Assessments
  - School Improvement

### **Comments**

A school readiness profile is developed from the ratings of each of the indicators within each dimension. Readiness can be shown for each of the 8 dimensions and the 23 sub-dimensions.

Reports can be automatically generated through the Online Profiler located on the Ready School Assessment website ([www.readyschoolassessment.org](http://www.readyschoolassessment.org)).

## **II. Administration of Measure**

### **Who Administers Measure/Training Required**

*Test Administration:* “The RSA is a consensus tool that works best when it brings together a variety of perspectives on the school’s readiness. Since the dimensions of the RSA involve many aspects of the school operations, it is best when the assessment is conducted by a team whose members possess a strong understanding of these aspects” (High/Scope Educational Research Foundation, 2006, p. 3).

K-2 teachers –the classroom environments and transitional practices  
Parents – family involvement practices  
Preschool teachers/Childcare providers – ready school’s communication efforts  
School Principals – school and district policies, curriculum, and assessment practices

An ideal team consists of four or more members across these groups with knowledge of one or more of the eight dimensions. The ready school team will need to meet several times to familiarize themselves with the RSA, gather evidence, review/discuss the evidence, and reach consensus on which ready school indicator level best reflects the readiness conditions of their school.

*Training Required:* “Training on understanding and administering the Ready School Assessment was provided to staff at pilot sites through a series of two-day workshops. Each pilot site was asked to identify a ‘ready school team’ of at least three to four persons, including (if possible) the school principal, K-2 teachers, preschool teachers, other school staff, and parents. Teams participated in the training workshops as groups in order to foster working relationships that would lead to an evidence-based, consensus response to the RSA indicators. The workshop included an introduction to the ready schools concept and provided background for the eight dimensions of school readiness. In addition, the workshops included hands-on practice using the instrument scales as well as practice scoring sessions using school/community case studies taken from the Head Start Transition Study (Love, Logue, Trudeau, & Thayer, 1992)” (High/Scope Educational Research Foundation, 2006, p. 9-10). It is highly recommended that teams complete the initial training piece offered by High/Scope Foundation staff.

### **Setting**

Observations, anecdotes, parent surveys and teacher surveys are collected about the elementary school environment and operations.

### **Time Needed and Cost**

*Time:* “The length of time it takes a ready school team to complete the tool will vary depending on the accessibility of the evidence needed to score the tool, the team’s ability to work together, and the level of experience the team members have with the self-assessment process” (High/Scope Educational Research Foundation, 2006, p. 10).

*Cost:* The cost for the RSA is \$124.95 plus Shipping for 5 copies of the instrument, 1 Administration Manual, 5 Team Handbooks, 5 Questionnaires, license for online profiler (1 year).

## **III. Functioning of Measure**

### **Reliability Information**

#### *Internal Consistency*

Cronbach’s alpha was computed for each of the eight RSA dimensions. The alphas ranged from .75 to .93, indicating a high degree of internal consistency. The majority of alphas (15) for the sub-dimensions were greater than .67. Two sub-dimensions had lower alphas: Transition Activities (.54) and Entry and promotion (.35). Alphas for the dimensions of Leaders and Leadership and Assessing Progress were not presented.

### **Validity Information**

#### *Convergent & Discriminant Validity*

“While we might wish for validity based on comparisons of the RSA with other ready school instruments, this possibility is severely constrained by its being essentially the

first measurement tool of its kind in the ready school arena” (High/Scope Educational Research Foundation, 2006, p. 11).

#### *Content Validity*

“The research base for the RSA starts with the attributes of a ready school proposed in the National Education Goals Panel’s 1998 report. In developing the RSA instrument, [the author’s] carefully reviewed the ready school literature to further flesh out detailed aspects of each of the eight RSA dimensions” (High/Scope Educational Research Foundation, 2006, p. 11). In addition, the authors used an advisory panel of elementary school principals, teachers, and early childhood researchers to guide the selection of content and the development of indicators. The instrument was reviewed by focus groups of preschool program directors, K-2 teachers, and elementary school principals.

“The preliminary review and revision work gave the instrument a strong footing in reality and a good measure of face validity. It also reinforced the content validity derived from its grounding in literature on the ready school topic” (High/Scope Educational Research Foundation, 2006, p. 11).

#### **References**

- Love, J. M., Logue, M. E., Trudeau, I. V., & Thayer, K. (1992). *Transitions to kindergarten in American schools: Final report of the national transition study*. Washington, DC: US Department of Education.
- Shore, R. (1998). *Ready schools*. Washington, DC: National Education Goals Panel.

## School – Age Care Environment Rating Scale (SACERS)

### I. Background Information

#### Author/Source

*Source:* Harms, T., Vineberg Jacobs, E., & Romano White, D. (1996). *School – Age Care Environment Rating Scale*. New York, NY: Teachers College Press.

*Publisher:* Teachers College Press  
1234 Amsterdam Avenue  
New York, NY 10027

#### Purpose of Measure

*As described by the authors:*

The School – Age Care Environment Rating Scale (SACERS) measures environmental quality in school age care settings.

#### Population Measure Developed With

In order to develop a comprehensive rating scale for school-age child care programs, the authors drew from a number of sources. The SACERS is based on criteria for developmental appropriateness for school-age children.

The SACERS is an adaptation of the Early Childhood Environment Rating Scale (ECERS) (Harms & Clifford, 1980). It is similar in format to the ECERS, the Family Day Care Environment Rating Scale (FDCRS) (Harms & Clifford, 1989) and the Infant/Toddler Environment Rating Scale (ITERS) (Harms, Cryer, & Clifford, 1990), but the content is specific to the school-age care group.

#### Age Range/Setting Intended For

The SACERS was developed for use with children ages 5- to 12-year olds.

#### Ways in which Measure Addresses Diversity

- Cultural awareness (item # 27) assesses ethnic, linguistic, gender role, cultural, and racial diversity of toys, books, and pictorial materials. It also assesses encouragement of acceptance and understanding of children with differences as modeled by staff.
- The *Special Needs Supplementary Items* subscale assesses provisions for special needs children. The items in this subscale assess adaptations for children with special needs. The complete list of items in this subscale are presented below.

### **Key Constructs & Scoring of Measure**

Forty-nine items of school-age care environment quality are categorized into seven subscales, each with several items. Items are rated on a 7-point scale from 1 (inadequate) to 7 (excellent). Descriptions are provided at score points 1, 3, 5, and 7.

- *Space and Furnishings* (11 items)
  - Indoor space
  - Space for gross motor activities
  - Space for privacy
  - Room arrangement
  - Furnishings for care routine
  - Furnishings for learning and recreational activities
  - Furnishings for relaxation and comfort
  - Furnishings for gross motor activities
  - Access to host facilities
  - Space to meet personal needs of staff
  - Space to meet professional needs of staff
- *Health and Safety* (8 items)
  - Health policy
  - Health practices
  - Emergency and safety policy
  - Safety practice
  - Attendance
  - Departure
  - Meals/snacks
  - Personal hygiene
- *Activities* (8 items)
  - Arts and crafts
  - Music and movement
  - Blocks and construction
  - Drama/theater
  - Language/reading activities
  - Math/reasoning activities
  - Science/nature activities
  - Cultural awareness
- *Interactions* (9 items)
  - Greeting/departing
  - Staff-child interactions
  - Staff-child communication
  - Staff supervision of children
  - Discipline
  - Peer interactions
  - Interactions between staff and parents
  - Staff interaction

- Relationship between program staff and classroom teachers
- *Program Structure* (4 items)
  - Schedule
  - Free choice
  - Relationship between program staff and program host
  - Use of community resources
- *Staff Development* (3 items)
  - Opportunities for professional growth
  - Staff meetings
  - Supervision and evaluation of staff
- *Special Needs Supplementary Items* (6 items)
  - Provisions for exceptional children
  - Individualization
  - Multiple opportunities for learning and practicing skills
  - Engagement
  - Peer interactions
  - Promoting communication

### **Comments**

There are “additional notes” for the SACERS that provide more detailed information on specific items that need to be considered while scoring, such as interpretations and explanations of specific wording in the items. These additional notes can be found at the following website: <http://www.fpg.unc.edu/~ecers/>.

## **II. Administration of Measure**

### **Who Administers Measure/Training Required**

*Test Administration:* The instrument may be used by the caregiving staff for self-assessment, by directors as a program-quality measure for planning program improvement, by agency staff for monitoring, in teacher training programs, and by parents concerned about quality care for their school-age children.

*Training Required:* Training is required to assure proper use of the instrument for each of its intended uses (i.e., research, program evaluation, and self-evaluation). It is preferable to participate in a training sequence led by an experienced SACERS trainer following the training guide in the SACERS book, pages 38 – 40.

### **Setting**

Observations are made in child care center settings.

### **Time Needed and Cost**

*Time:* The authors recommend observing for a block of two hours. An additional 20 – 30 minutes is needed to ask the teacher questions on items that were not observed.

*Cost:* The cost of a five-day in-depth training is \$1225/person. A three-day training costs \$825/person. Fees include all materials.

### III. Functioning of Measure

#### **Reliability Information**

Reliability of the SACERS subscales and total scores was assessed in three ways: internal consistency was calculated using Cronbach's Alphas; inter-rater reliability was measured using the Kappa statistic which corrects for chance agreements; and inter-rater reliability was estimated using intraclass correlations.

Data from 24 after-school programs in two Canadian provinces, Quebec and Ontario, were used to calculate Cronbach's Alphas and Kappas. Two observers independently rated each class on the SACERS during a single visit. One observer rated all 24 classrooms. The second observer was one of five other trained raters. Intraclass correlations require that the same two independent observers rate all groups. These data were available for 13 of the 24 settings. No reliability data was available for on the *Special Needs Supplementary Items* as none of the centers included exceptional children.

#### *Inter-rater Reliability*

Weighted Kappas were calculated for 24 centers, rated independently by two observers. Weighted Kappas for each of the subscales and total score are:

<i>Space and Furnishings</i>	.79
<i>Health and Safety</i>	.83
<i>Activities</i>	.86
<i>Interactions</i>	.82
<i>Program Structure</i>	.82
<i>Staff Development</i>	.91
<i>Total Score</i>	.83

#### *Internal Consistency*

Cronbach's Alphas for each of the subscales and total scores based on 24 classrooms are:

<i>Space and Furnishings</i>	.76
<i>Health and Safety</i>	.82
<i>Activities</i>	.86
<i>Interactions</i>	.94
<i>Program Structure</i>	.67
<i>Staff Development</i>	.73
<i>Total Score</i>	.95

#### *Intraclass Correlations*

Calculated on 13 centers that were observed by the same two independent observers. Correlations for each subscale are:

<i>Space and Furnishings</i>	.87
<i>Health and Safety</i>	.95
<i>Activities</i>	.92

<i>Interactions</i>	.93
<i>Program Structure</i>	.99
<i>Staff Development</i>	.99
<i>Total Score</i>	.96

### **Validity Information**

Validity was assessed in two ways: content validity was assessed using expert ratings of each item's importance to their definition of quality; and construct validity was assessed by correlating SACERS total and subscale scores with staff training and staff-to-child ratios.

#### *Construct Validity*

SACERS total and subscale scores were correlated with staff training and staff-to-child ratio. Staff training was estimated by assigning a score between 0 and 5 to indicate the highest level of education attained. For example, a score of 5 was assigned if the staff member had completed a college degree in early childhood education or a related field; a score of 4 was given for completion of a college degree in a field unrelated to early childhood education; a score of 3 if the staff member was currently enrolled in an early childhood education or child development program; a score of 2 if the staff member was currently enrolled in a program unrelated to early childhood; a score of 1 for a high school diploma; and a score of 0 if the staff member had not completed high school. Staff-to-child ratios were determined by dividing the total number of children enrolled in the group by the number of staff members assigned to supervise the group. Staff training has moderate positive correlations with Space and Furnishings ( $r = .31$ ), Interactions ( $r = .29$ ), Program Structure ( $r = .40$ ), and Total Score ( $r = .29$ ). Staff-to-child ratios have moderate negative correlations with Health and Safety ( $r = -.40$ ), Activities ( $r = -.39$ ), Staff Development ( $r = -.24$ ), and Total Scores ( $r = -.30$ ).

#### *Content Validity*

Content validity was assessed by asking nine recognized experts from the United States and Canada to rate the importance of each SACERS item to their intuitive definition of high quality on a 5-point scale. (1 = not important to 5 = very important). A mean rating of 4.5 to 5 was found for 91% of the items. The overall mean rating of the items was 4.8. The lowest mean rating assigned to any item was 3.9.

## Supports for Early Literacy Assessment (SELA)

### I. Background Information

#### Author/Source

*Source:* Smith, S., Davidson, S., Weisenfeld, G., & Katsaros, S. (2001). *Supports for Early Literacy Assessment (SELA)*. New York, NY: New York University.

*Publisher:* The SELA is unpublished. Contact Sheila Smith at 212-998-5014 or [Sheila.Smith@nyu.edu](mailto:Sheila.Smith@nyu.edu).

#### Purpose of Measure

*As described by the authors:*

The SELA is an instrument still under development that can be used to document the quality of supports for young children's literacy development in center-based preschool settings. A combination of observations and interview items capture information on both classroom and parent involvement activities.

Some items related to oral language development and developmentally appropriate practice were adapted from the Early Childhood Environment Rating Scale (Harms, Clifford, & Cryer, 1998) and the High/Scope Program Quality Assessment (High/Scope Educational Research Foundation, 2003). Two items related to children learning English as a second language were based on best practice ideas in *One Child, Two Languages* (Tabors, 1997). Other constructs are informed by the NAEYC publication *Learning to Read and Write*.

The SELA is designed for research, training, and professional development efforts to improve the quality of early childhood programs.

#### Population Measure Developed With

The measure was developed and piloted in pre-kindergarten classrooms serving mostly 4-year-olds in low-income, urban communities. Many classrooms had English language learners and most were ethnically diverse (Hispanic, Asian, African-American children). Programs were publicly funded child care, pre-kindergarten (funded by the state Universal Pre-K program) and/or Head Start. All classrooms were in community settings and many received funds from more than one source (e.g., child care subsidies, Head Start).

#### Age Range/Setting Intended For

The SELA was developed for use with children ages 3 to 5 in center-based preschool settings (e.g., child care, pre-kindergarten, Head Start). The instrument is not appropriate for use with younger children.

### **Ways in which Measure Addresses Diversity**

The SELA contains two items for sites with bilingual and non-English speaking children. These items should be used only if 25% of the children in the class are second-language learners.

### **Key Constructs & Scoring of Measure**

A total of 21 rating scales and teacher interview questions represent seven constructs related to early literacy development. Each item within the instrument is rated on a 5-point, Likert-type scale, with a rating of 5 reflecting best practice and a rating of 1 indicating the absence or very low quality of a literacy support. The instrument describes anchor behaviors for ratings of 1 (very low quality), 3 (fair quality), and 5 (ideal quality) for each item.

- *The Literate Environment* (5 items). Assess the use of environmental print in the classroom, the appearance of the book area in the classroom, the variety of books available to children, the availability of writing materials, and the variety of literacy items and props in the pretend play area.
- *Language Development* (4 items). Assess whether and how teachers encourage children to use oral language, the richness of teachers' language to children, book reading, and activities that promote children's oral language and knowledge development.
- *Knowledge of Print/Book Concepts* (1 item). Assesses whether the teacher calls attention to the functions and features of print.
- *Phonological Awareness* (1 item). Assesses whether the teacher draws children's attention to the sounds they hear in words.
- *Letters and Words* (2 items). Assess teachers' promotion of children's interest in writing and the extent to which teachers help children identify letters.
- *Parent Involvement* (2 items). Assess regular communication between teacher and parent regarding literacy promotion, and special activities to involve parents in their children's literacy development.
- *Developmentally Appropriate Practice* (4 items). Assess activities and materials, child choice of a variety of developmentally appropriate activities, teacher warmth and acceptance of children, and the promotion of positive interactions among children.
- *Bilingual and non-English speaking children* (2 items). Assess the extent to which a child's native language is maintained and developed within the classroom setting, and the use of effective strategies to help children understand and acquire English.

### **Comments**

Ratings should reflect what the children are experiencing. That is, if there are multiple teachers in the room, all teacher behavior should be included when determining a rating. Observation notes are the primary source of supporting evidence for ratings, although teacher interview data are also considered. If the teacher interview indicates a different rating than what was obtained from direct observation, the overall rating on an item can only be elevated (or lowered) one point from the rating based on the direct observation alone.

## II. Administration of Measure

### **Who Administers Measure/Training Required**

*Test Administration:* Raters should be familiar with features of high quality early childhood programs and developmentally appropriate practice.

*Training Required:* Training on the SELA instrument requires several hours of discussion of the items, achieving inter-rater reliability with a trained rater, and further discussion and resolution of discrepancies in ratings.

### **Setting**

SELA observations occur in center-based settings. Ideally, the observation will include time when staff read to the children.

### **Time Needed and Cost**

*Time:* Completing the SELA requires a classroom observation of 2.5 to 3 hours and a 30-minute interview with the lead teacher following the observation.

*Cost:* The instrument is available from the first author, Sheila Smith, Ph.D. ([Sheila.Smith@nyu.edu](mailto:Sheila.Smith@nyu.edu) or 212-998-5014).

## III. Functioning of Measure

### **Reliability Information**

#### *Inter-rater Reliability*

Lamy et al. (2004) reported that the average inter-rater reliability coefficient for the modified SELA was .98. Raters had to reach at least 80 % agreement with an experienced observer on all measures.

In a study conducted in three early childhood settings (Head Start within an elementary school, Head Start in a center-based setting, and pre-kindergarten in a parochial school) in Washington, DC, SELA ratings were obtained for each of four classrooms. However, as with the Lamy et al. (2004) study, this study also used a modified version of the SELA, since some of the classrooms contained children younger than 3. For each classroom observation, ratings were completed by two observers separately, and consensus ratings were arrived at by discussion (Halle, Lavelle, Redd, & Zaslow, 2005). Ratings rarely differed by more than one point on the five-point rating scales prior to conferencing.

In a more recent study of a comparison of the effects of two-way immersion (TWI) and monolingual English immersion (EI), Barnett and colleagues (2007) used the SELA to measure the quality of the preschool literacy environment and instruction. They reported an inter-rater reliability coefficient of .80.

### *Internal Consistency*

In a study of a random sample of 310 preschool classrooms in Abbott County New Jersey, Lamy et al. (2004) used a modified version of the SELA that eliminated 5 items that overlapped with the ECERS-R (that is, the modified SELA had 16 instead of 21 items). They reported that the internal consistency among scale items as measured by Cronbach's alpha was excellent (.92).

### **Validity Information**

#### *Criterion Validity*

In a study of a random sample of 310 preschool classrooms in Abbott County New Jersey, Lamy (2004, as cited in Barnett, Yarosz, Thomas, & Blanco, undated) found that the correlation between SELA and ECERS-R total scores was .75.

### **Comments**

All of the psychometric information reported in this profile is based on modified versions of the SELA, rather than the original instrument.

### **References**

- Barnett, S. W., Yarosz, D. J., Thomas, J., Jung, K., & Blanco, D. (2007) Two-way and monolingual English immersion in preschool education: An experimental comparison. *Early Childhood Research Quarterly*, 22, 277-293.
- Halle, T., Lavelle, B., Redd, Z., & Zaslow, M. (2005). *Final Report of the Mouth Time Formative Evaluation*. Paper prepared for the CityBridge Foundation. Washington, DC: Child Trends.
- Harms, T., Clifford, R., & Cryer, D. (1998). *Early Childhood Environment Rating Scale – Revised*. New York: Teacher's College Press.
- High/Scope Educational Research Foundation (2003). *Preschool Program Quality Assessment, 2<sup>nd</sup> Edition (PQA) Administration Manual*. Ypsilanti, Michigan.
- Lamy, C. E., Frede, E., Seplocha, H., Ferrar, H., Wiley, L., & Wolock, E. (2004). *Inch by inch, row by row gonna make this garden grow: Classroom quality and language skills in the Abbott Preschool Program*. Rutgers, NJ: National Institute for Early Education Research.
- Tabors, P. O. (1997). *One child, two languages*. Baltimore, MD: Brookes Publishing.

## Supports for Social-Emotional Growth Assessment (SSEGA)

### I. Background Information

#### Author/Source

*Source:* Smith, S. (2004).

*Publisher:* This measure is unpublished. Contact Sheila Smith at 212.998.5014 or [Sheila.Smith@nyu.edu](mailto:Sheila.Smith@nyu.edu) at the Child and Family Policy Center, Steinhardt School of Education, Culture and Human Development, New York University

#### Purpose of Measure

*As described by the authors:*

The SSEGA is a new, observation-based classroom assessment instrument that can be used to document the strength of key supports for children’s social-emotional growth (e.g., space and materials conducive to small group play), classroom routines and activities (e.g., adequate time for peer interaction, unhurried transitions) and teacher behavior (e.g., guidance to help children develop positive peer relationships and skills in conflict resolution).

#### Population Measure Developed With

The measure was developed and piloted in pre-kindergarten classrooms serving mostly 4-year-olds in low-income, urban communities. Many classrooms had English language learners and most were ethnically diverse (Hispanic, Asian, African-American children). Programs were publicly funded child care, pre-kindergarten (funded by the state Universal Pre-K program) and/or Head Start. All classrooms were in community settings and many received funds from more than one source (e.g., child care/Head Start).

#### Age Range/Setting Intended For

The SSEGA was developed for use with children ages 3 to 5 in center-based preschool settings (e.g., child care, pre-kindergarten, Head Start).

#### Ways in which Measure Addresses Diversity

The SSEGA does not have specific items that address language or ethnic diversity. However, an item related to “supportive teacher-child relationships” emphasizes the teachers’ role in talking positively to children about their individual interests and life circumstances. Two other items assess the classroom’s capacity to support the social-emotional growth of children with special needs.

#### Key Constructs & Scoring of Measure

The instrument’s 16 items are clustered as follows:

- *General classroom environment and routines* (3 items)

- *Supportive teacher-child relationships* (2 items)
- *Supports for Emotional Self-Regulation* (2 items)
- *Supports for Children's Positive Social Behavior* (3 items)
- *Supports for Children's Social Understanding* (2 items)
- *Parent Involvement* (2 items)
- *Program identify and support children with special needs* (2 items)

Each item is rated on a 5-point Likert-type scale, with a rating of 5 reflecting best practice and a rating of 1 indicating the absence or very low quality of a support for social-emotional growth. The instrument describes anchor behaviors for ratings of 1 (very low quality), 3 (fair quality), and 5 (ideal quality) for each item.

### **Comments**

Ratings should reflect what the children are experiencing. That is, if there are multiple teachers in the room, all teacher behavior should be considered when determining a rating. Observation notes are the primary source of supporting evidence for ratings, although teacher interview data are also considered. If the teacher interview indicates a different rating for an item than what was obtained from direct observation, the item's final rating can only be elevated (or lowered) one point from the rating based on the direct observation alone.

## **II. Administration of Measure**

### **Who Administers Measure/Training Required**

*Test Administration:* Raters should be familiar with features of high quality early childhood programs and developmentally appropriate practice.

*Training Required:* Training on the SSEGA instrument requires several hours of discussion of the items, achieving inter-rater reliability with a trained rater in actual classroom assessments, and further discussion and resolution of discrepancies in ratings. Classroom vignettes have been developed for the initial phase of training to allow practice ratings with the SSEGA.

### **Setting**

The SSEGA is administered in center-based preschool settings

### **Time Needed and Cost**

*Time:* Completing the SSEGA requires a classroom observation of 2.5 to 3 hours and a 30 minute interview with the lead teacher following the observation.

*Cost:* No information on cost is available. The instrument is available from the author, Sheila Smith, Ph.D. ([Sheila.Smith@nyu.edu](mailto:Sheila.Smith@nyu.edu) or 212.0998.5014).

### **III. Functioning of Measure**

#### **Reliability Information**

##### *Inter-rater Reliability*

In an unpublished pilot study (Smith, 2004) raters were consistently able to reach 90% or above agreement within a point after a brief period of training involving practice ratings of the SSEGA based on classroom vignettes. Raters were knowledgeable about high quality early childhood education settings prior to training.

#### **Validity Information**

##### *Criterion Validity*

In a pilot study of 36 classrooms in New York City, relationships were found between the total SSEGA score and measures of professional development and teachers' views of best practices. For both teachers and assistant teachers, the SSEGA total score was significantly correlated with reports of the number of workshops related to preschoolers' social-emotional growth attended in the past year (.59 and .41 respectively), and for assistant teachers, with on-site coaching (.38). For both teachers and assistant teachers, the SSEGA total score was significantly correlated with average ratings of teachers' responses to two social-emotional problem scenarios (.38 and .54 respectively). In these scenarios, teachers described how they would approach different situations in which children need help following classroom routines, managing and understanding emotions and understanding others' intentions. In the coding scheme, higher ratings reflected best practices described in the SSEGA.

##### *Content Validity*

The SSEGA was developed through a process of reviewing current research-to-practice guidelines for supporting preschoolers' social-emotional growth and refining items based on feedback from leading scholars in this area.

(Major sources used in the development of the SSEGA are cited in the instrument.)

#### **References**

Smith, S. (2004) unpublished study. Pilot of a new classroom assessment instrument: Supports for Social-Emotional Growth. New York, NY: Child and Family Policy Center, Steinhardt School of Education, Culture, and Human Development, New York University.