Predictors and Outcomes of Early Childhood Classroom Quality

Donna Bryant and Peg Burchinal
FPG Child Development Institute
University of North Carolina at Chapel Hill
What do we typically measure?

- Warm and responsive interactions
- Good communication
- Variety of activities encouraging reasoning
- Culturally appropriate activities
- Opportunities for large and small-group activities and alone
- Consistent, positive mgmt. of behavior
- Good planning and time management
Measures Reviewed

- CIS - Caregiver Interaction Scale
  (Arnett, 1989)

- CLASS – Classroom Assessment Scoring System
  (Pianta, LaParo & Hamre, 2004)

- COS-1 and COS-3 – Classroom Observation System
  (NICHD SECC)

- ECERS – Early Childhood Environment Rating Scale Revised
  (Harms, Clifford, & Cryer, 1998)
Measures Reviewed

- **ECERS-E – ECERS Extension**
  
  (Sylva, Siraj-Blatchford, & Taggart, 2003)

- **ELLCO – Early Language and Literacy Classroom Observation Toolkit**
  
  (Smith & Dickinson, 2002)

- **ORCE – Observational Record of the Caregiving Environment** (NICHD ECCRN, 1996)

- **PQA – Program Quality Assessment**
  
  (High Scope, 1989)

- **Profile – Assessment Profile for Early Childhood Programs** (Abbott-Shim, Sibley, & Neel, 1992)
What do researchers want observational measures to do?

1. Be valid, reliable, easy to obtain and train
2. Succinctly describe range of classrooms along several dimensions
3. Reflect various structural variables
4. Act as predictors of children’s outcomes
5. Be able to detect change in a PD intervention or document fidelity of approach/curriculum
6. Be valid across cultures
1. Validity, Training, & Reliability

- Standardization sample
- Cost of purchasing and training
- Materials to help learn
- Staying reliable
- Child-focused measures used to represent the class
- Who collects the observation data?
2. How do the measures relate to each other?

- ECERS – PQA: \( r = 0.86 \)
- ECERS – Profile: \( r = 0.64 \) and \( 0.74 \)
- ECERS - CLASS Emotion: \( r = 0.54 \)
- ECERS – CLASS Instruction: \( r = 0.44 \)
- ECERS – Snapshot FP/centers: \( r = 0.46 \)
- ELLCO – Profile: \( r = 0.44 \)
3. Predictors of Quality

- States w/ structural regulations - ECERS
- Being in a school setting – Snapshot whole group
- Lower group sizes and ratios – ECERS, ORCE, Profile
- Poverty density – CLASS and ECERS
- Teacher education – ECERS (older studies and current Head Start); but not in new studies (NCEDL; NC, GA & NJ Pre-K)
- Teacher age – PQA
- Teacher DAP beliefs, non-authoritarian attitudes – ECERS, CIS, ORCE, Profile, CLASS
- Teacher depression - CLASS
- Professional membership – Profile
- In-service training - PQA
Structure-Quality Correlations across 4 Large Studies

- Total No. Classrooms = 2100
- Median correlations w/quality were:
  - Ratio: -.19 (-.39, .04)
  - Teacher experience: .08 (.01, .16)
  - Group size: -.06 (-.15, .10)
  - Teacher education: .07 (-.28, .31)
  - Teacher w/BA: -.04 (-.28, .24)

Correlations computed within study. Range is in parentheses.
4. Child Outcomes Predicted by Quality Measures

- ECERS – math and cognitive/language outcomes in CQO, NCEDL, FACES, MAF studies; *prob behavior* in CQO
- ECERS-E – In GB, stronger predictor than the ECERS
- ORCE – *positive peer interactions* at 36 mo and cognitive/language at 4.5 yrs
- COS – *problem behaviors and social conversations*
- CLASS – emotional climate with *low problem behaviors*
- Snapshot teacher interactions – high level cognitive activity
- ELLCO – children’s vocabulary and literacy scores
- Assessment Profile – *fewer problem behaviors*
Quality-Outcomes Correlations across 4 Large Studies

- Total number of children = 4400
- Partial correlations, controlling for site, maternal education, and child’s ethnicity
  - Academic achievement: 0.06 (-0.13, 0.09)
  - Language measure: 0.08 (-0.16, 0.19)
  - Social-emotional comp.: 0.07 (-0.01, 0.14)

Within project correlations computed, median and ranges reported
Quality of Care and Academic Achievement: partial correlations

![Graph showing partial correlations between quality of care and academic achievement. The graph includes bars for secc, ncedl, cqd, and quince, with colors representing Reading, Math, and School Skills.]
Quality of Care and Language Skills: partial correlations

- secc
- ncedl
- ncedl
- cqq
- cqq
- quince
- quince

Expressive vs. Receptive
Behavior Problems was reversed so positive association indicates fewer problems.
Center Care – Median Partial Correlations Between Quality Indicators and Child Outcomes

![Graph showing correlations between quality indicators and child outcomes.](image)
5. Sensitive to Interventions?

- ECERS – several studies
- ELLCO, Profile, Snapshot – a few
- Many quality enhancement interventions are assessment-based (usually ECERS)
- Training of consultants is a big issue
- Breadth of the interventions is often broader than the outcome measure can assess
6. Cultural appropriateness

- 4 studies (at least) show that the ECERS measures the qualities that different cultures value for their children
- Statistically appropriate, but
- Conceptually, we may need more
Future Work

- Measures refinement needed; continued analyses of existing large databases
- Measures for FCC homes and for infant classrooms need more research
- Parent involvement – both assessment of and how parents use QRS information
- Research on the reliability of TAs’ or consultants’ use of the quality measures
- Linkages between QE interventions, classroom quality and child outcomes