Assessing Quality of ECD Programs and Child Development Outcomes: Selecting and Adapting the Right Tools

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Examining Early Child Development in Low-Income Countries: A Toolkit for the Assessment of Children in the First Five Years of Life

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ECD Measurement

- Importance of measuring early development
- Domains to be measured
- Theoretical decisions in selecting instruments
- Modification, adaptation and standardization of existing tests
- Training and quality control
- Measuring quality of ECCE
ECD Domains

6th Domain? Executive function:
Fluid abilities or processes that are engaged when a person is confronted with a novel situation, problem or stimulus

Cognitive and emotional functions:
- Short-term memory
- Attention
- Inhibition
- Self-regulation
Cultural Norms and Development

• As school becomes more universal, the necessary skills to be successful become more consistent across cultures.

• Through modification and adaptation, every effort must be made to ensure that tests are fair for all children assessed.
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Step 1: *Purpose of Assessment*

- What are the *goals* of the assessment?
- What *dimensions* of child’s development do you expect to be affected by the intervention?
- At what *level* will effect be measured?
- How will the sample be *selected*?
- What is the *analytic plan*?
Step 2: *Type of Assessment: Screening versus ability test*

- **Screening tests**: brief assessments to identify children who are at risk of having development problems
  - Inexpensive, quick, and relatively easy to administer
  - Classify children into categories

- **Ability tests**: longer tests that assess the maximum skill level for a child at any given age
  - Continuous scores that can be used to compare children’s developmental levels with more precision; can be used for diagnoses
Step 3: *Mode* of assessment: Directly administered tests

- **Pros:**
  - Data are gathered first hand
  - Data can be less biased than parent/teacher reports
  - Potentially wider range of outcomes can be assessed

- **Cons:**
  - Young children can be difficult to test (sleeping, hungry)
  - Testers need a lot of training and oversight
  - Accuracy depends on testing demands and child must be familiar with parameters (e.g. best v. worst)
Direct test: Executive function
Head, Toes, Knees, Shoulders
Mode of assessment: Teacher report (EDI)

- Early Development Instrument (EDI; Janus and Offord)
- *Population-level* measure for interpreting outcomes for groups of children
- Completed by teachers in kindergarten classes after several months of observations
- 104 items:
  - Physical health and well-being
  - Social competence
  - Emotional maturity
  - Language and cognitive development
  - Communication skills and general knowledge
- Yields results that could be used to identify weak and strong sectors
**Mode of assessment:**
**Teacher report (EDI)**

- **Pros:**
  - Community-level focus and planning
  - Far less expensive than individual testing
  - May be useful for large survey-based research
  - Authors support adaptation to local contexts

- **Cons:**
  - Teacher bias possible
  - Ratings will vary by age, but ratings are not age-adjusted
  - Sampling is difficult: non-attendees are excluded
  - Limited to use in schools only
Mode of assessment: Parent report (EDI/UNICEF MICS)

- Selected and adapted 10 items from EDI for use as parent report child development indicators within the MICS4
- For use with children 3-4 years of age
- Combined with Family Care Indicators (measure of household support for development), may identify children at risk for poor development
- Cross-cultural comparisons on child development
Mode of assessment: Parent report

• Pros
  – Easy to administer and require minimal training and instruction
  – Often are quick and easy to complete and to score
  – Parents can become involved and express concerns
  – Often correlate well with direct assessments

• Cons
  – Parents may artificially inflate scores
  – Parents may not accurately report abilities
  – Parents may have different interpretations of items in different cultures
**Mode of assessment: Observation**

Types of observation: *Naturalistic observation, Sampled observation, Structured situation*

- **Pros:**
  - Highly valid
  - Measures behavior in an identified context
  - Can provide additional or confirmatory information for other types of assessments

- **Cons:**
  - Requires a lot of time and training
  - Need to identify if culturally appropriate
  - Difficult coding since observational codes and definitions are not always clearly defined
Step 4: Determine *which* assessment to use

Bayley
PPVT
ASQ
EDI
Other constraints to consider

- **Budget**: Tests can be very expensive (e.g. $1000 for Bayley); administration time is a budget issue, too.
- **Copyright issues**: Must obtain permission for most tests.
- **Time for adaptation/validatation of task**
- **Time allocated for testing**: Direct assessment v. parent rep.
- **Training**: Capacity for administration.
- **Test setting**: Set-up, lighting, noise, observers
- **Capacity of respondent**: Education/knowledge of parent
- **Language and cultural differences**: Words used in testing materials, approach used for testing (e.g. speedy response)
- **Materials**: Are they familiar and/or available (e.g. use of computerized tests)?
Ethical risks and responsibilities

- All assessment protocols *must* be reviewed and approved by an ethical review board.
- Accuracy and validity are extremely important especially if test scores are being used to identify children “with delays”.
- Follow-up (e.g. referrals for at-risk children) should be mandatory even in the context of a developing country.
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Instruments: Modifying and adapting

• No test is “culture free”
  – *Construct bias*: e.g. test doesn’t measure “intelligence” the same way in both cultures
  – *Method bias*: e.g. procedures are unfamiliar and differentially affect responses
  – *Item bias*: e.g. individual test items do not translate well

• Existing tests can be used across different cultures but they must be modified and adapted to achieve equivalence
Preparatory work for test adaptation

- Involve local professionals to gather information relating to linguistic, cultural and technical details
- Produce an accurate translation
  - Back translation
  - Review, compare, correct
- Pilot translated version to explore possible areas of confusion
Steps for test adaptation

• Adapt test content to local context
  – Make as many changes as necessary while maintaining the intended “meaning” of the items

DDST

MDAT
MDAT (Gambia)
Steps for test adaptation, cont’d

• Adapt administration procedures
  – Tester (e.g. affect, responsivity, sensitivity, development of rapport, willingness to change environment)
  – Test environment (e.g. materials, table, chair, lighting, sound, observers, other distractions)
  – Test procedures (e.g. accuracy of parent response, clarity of instructions)
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Training and standardization

- Establish “gold standard” interviewer
- Test for inter-rater reliability
- Test for rater accuracy
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Preschool Quality

• Structural
  – Cleanliness, access to toilet, lights, play materials, books, child:staff ratio

• Process
  – Interactions, responsiveness, teaching style, involvement with parents
Preschool Quality

• Observation tools:
  – ECERS: US developed and widely used
  – Ratings on physical space, interactions, routines
  – Takes several hours to complete
  – Many US settings only score adequately
  – Many items not relevant to developing world
  – Has been adapted to East Africa, Asia
Preschool Quality

• Observation tools:
  – ECERS-E: UK developed; emphasizes school readiness
  – Adds items on literacy, math, science
  – Ratings
  – Takes several hours to complete
  – Has been adapted to East Africa, Asia
  – Useful for evaluating specific curricula
Preschool Quality

- Observation tools:
  - Classroom Assessment Scoring System (CLASS)
    - Teacher-child interactions
      - Emotional support
      - Classroom organization
      - Instructional support
    - Better suited to preschools than daycares
Household Support for Learning

- HOME Scales (Caldwell & Bradley, 1984)
  - Infants to adolescents
  - Observation and interview
  - 45 minutes
  - Responsiveness, play materials, books, punishment, other caregivers
  - Strongly related to child outcomes

- Family Care Indicators (Kariger et al. 2012)
  - UNICEF MICS: toys, books, 6 activities
Maternal Characteristics

• Depressive symptoms
  – High prevalence in impoverished settings
  – Linked to poor child growth, development
    • CESD (Radloff, 1977)
    • WHO SRQ-20

• Parent Stress Index (PSI; Abidin, 1997)
  – Targeted to specific child
  – Multi-dimensional
    • Parent-child interactions, distress, difficult child
Contact info and further reading

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FURTHER READING:


