



Improving Teaching Through Standards-Based Systematic Assessment: Development of the Early Learning Scale

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MATCHING PURPOSE AND TYPE OF ASSESSMENT

Purpose	Types of Assessment	
	Formal	Informal
Preparedness to benefit from program	Readiness tests - criterion referenced	Observation Parent report
Identify child who needs diagnostic test	Screening test with follow-up	Error analysis Structured Obs.
Determine sp. ed. classification	Diagnostic/developmental*	
To evaluate child progress	Standards-based achievement tests	Performance-based assessment

Hills, T. in Bredekamp, S., & Rosegrant, T. (Eds.). (1992). *Reaching potentials: Appropriate curriculum and assessment for young children* (Vol. 1). Washington, DC: National Association for the Education of Young Children.



Why Use Observation-Based Performance Assessment?

- Standardized tests may be misused
- Children are not “reliable” – captures children’s skills and knowledge in real life over time
- Compares children to themselves, is comprehensive and focuses on strengths and interests
- Understandable to parents and informs teaching



Why the ELS?

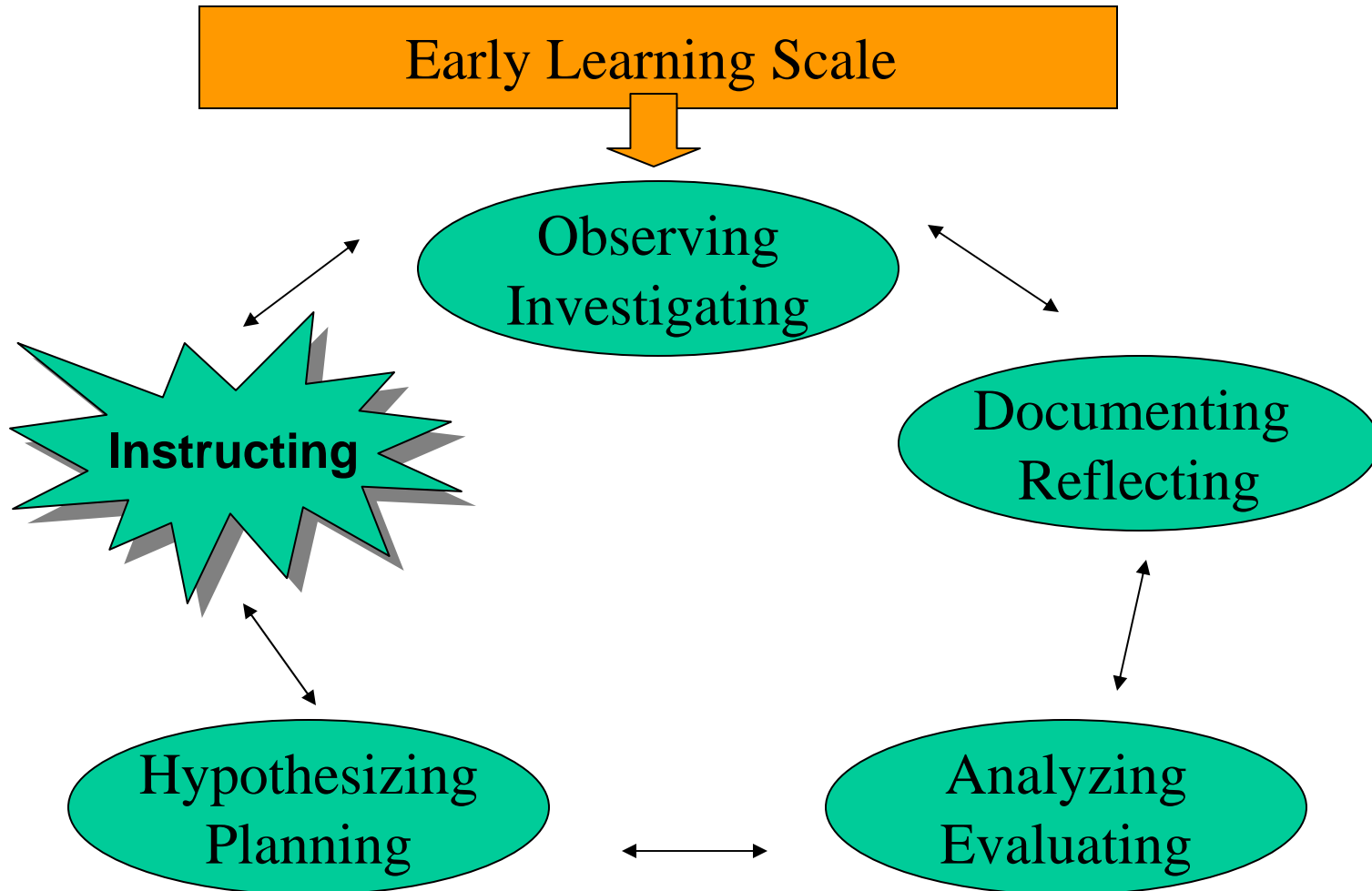
- A pre-emptive strike against state-wide testing
- Need for focused, manageable instrument based on state standards
- Research derived and validated



The Early Learning Scale

- Systematic assessment for preschool children
- Conceptually derived from NJELAS
- Performance-based assessment scale
- Across domains
- Informs instruction with data

The Assessment Process





What ELS Offers

- 10 items across domains
- Developmentally appropriate continuum
- Not curriculum-specific
- Directly related to learning standards
- Focused and manageable



What's Included in the ELS

- Must be measurable, develop on a continuum, and critical to present and future learning
- Math
- Science- Content Vs. Process
- Social Emotional Development
- Social Studies
- Language Arts Literacy
- Creative Arts
- Health, Safety, and Physical Education



Specific Content

- Math/Science
 - Number and Numerical Operations
 - Geometry and Measurement
 - Observation and Classification
 - Scientific Inquiry
- Social Emotional/Social Studies
 - Self-regulation
 - Play
- Language Arts Literacy
 - Oral Language
 - Phonological Awareness
 - Print Awareness
 - Writing

ITEM

DOMAIN

Math/Science

<u>(3) Observation and Classification</u>	1	2	3	4	5
Observation	Provides simple comments about observed phenomenon	Gives descriptions that provide information about what was seen and what was happening		Compares and contrasts two or more observed phenomenon and uses relevant vocabulary	
Classification	Notices similar attributes	Sorts items based on similar attributes		Determines how to classify a group of items and tells about the groups	

STRAND

STRAND

INDICATORS



Observation and Classification

- Observation
 - Paying attention to detail – leads to asking questions
 - Allows children to develop communication skills and create mental representations
- Classification
 - Using observations of attributes to order objects
 - Requires inductive reasoning and problem solving skills
 - Prepares children for future experiences with numerical operations and concepts of probability



Play

- Helps children develop self-regulation
- Social pretend activities lead to more cooperative and longer lasting interactions among children
- Promotes memory development
- Extends vocabulary
- Results in thinking that is more imaginative and flexible

<u>(6) Play</u>	1	2	3	4	5
Quality and Attributes of Constructive Play	Does not engage with materials independently; Is not engaged during free play	Chooses materials, but needs support to engage and extend their use; Is engaged in activities during choice time, but may become off task in transition		Explores and experiments with a wide variety of materials; Engages in purposeful activity for most of the time while moving independently from one activity to another	
Quality and Attributes of Cooperative Play	Usually plays alone; May engage in parallel play- plays near another child with similar materials, but not influencing the other's play	Engages in associative play- engages in separate activities, but interacts by sharing toys or commenting on each other's play		Successfully enters into play when a group of children are already involved; Expresses ideas for activities and acknowledges actions and accomplishments; Negotiates roles and sets up events	
Quality and Attributes of Sociodramatic Play	Exclusively uses actual objects for intended purpose in pretend play	Pretend play is simplistic; Uses objects to stand for other objects in pretend play		Play has defined roles and story lines such as familiar story books, family life and community roles	



Writing

- The purpose of writing is to communicate
- Children bridge their oral and written worlds through drawing, scribbling, making lines, letter-like forms, conventional letters, and various combinations of these
- Writing can be a meaningful component of play

<u>(10) Writing</u>	1	2	3	4	5
Composing	Does not give meaning to writing; Does not engage in labeling or dictation with adult	Labels pictures; Engages with adult when asked for dictation		Uses symbols for a purpose and gives meaning to the writing	
Production	Draws or scribbles	Makes forms that resemble letters; May write own name		Strings conventional letters together (other than their name)	

Roy

1 pizza slice

T- How much does it cost?
R- \$5

Roy took the teacher's order of 1 pizza slice.



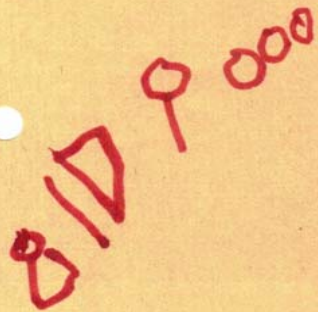
Irvin drew a picture of his family and labeled each person with the teacher.

Ressie
9/5/07

The Chill Grill on wheels

(That's the name of my restaurant)

How to make the soup



Ressie wrote the recipe for her soup in her restaurant and talked about each symbol she wrote, “That’s a cup of flour, flour’s in it, see.

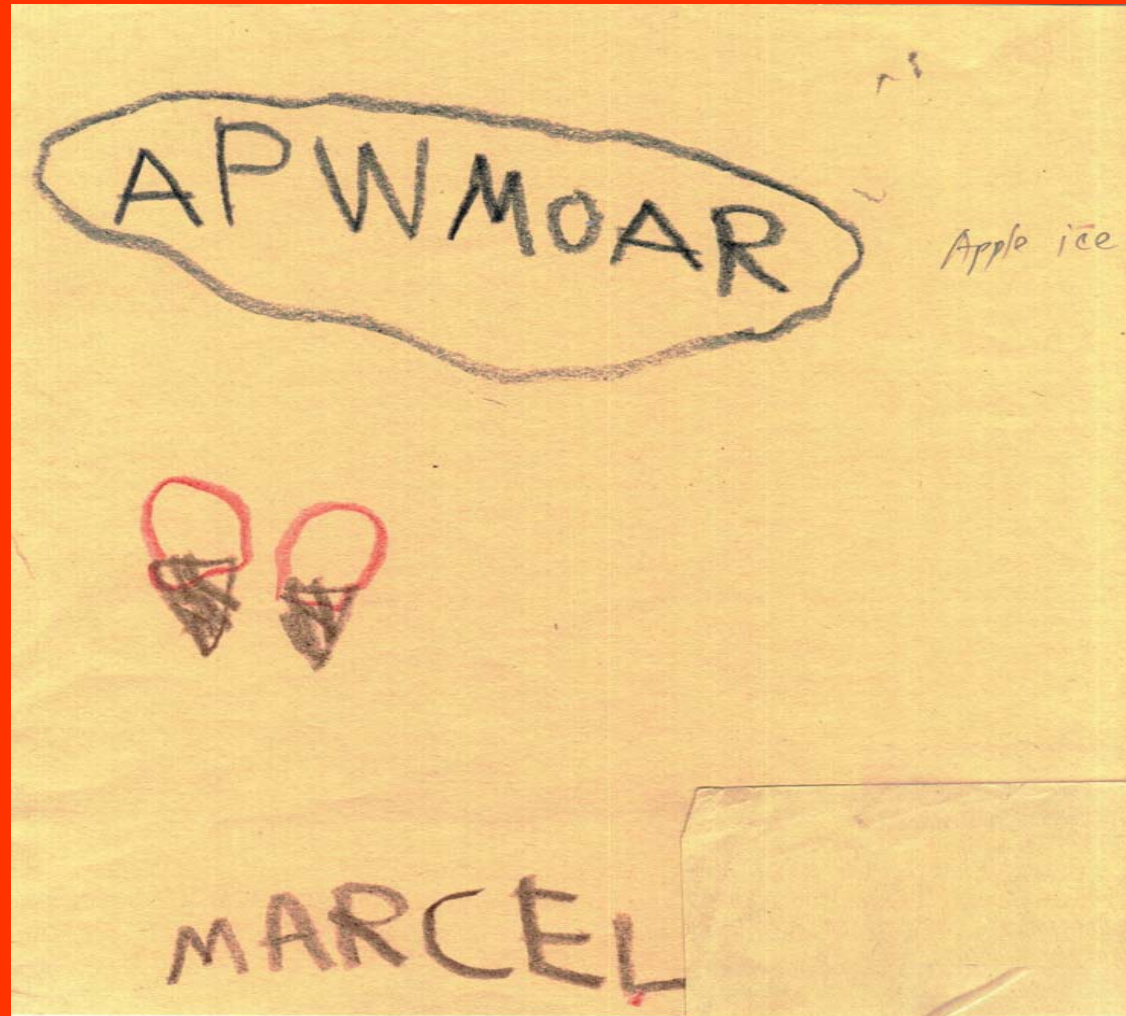
See the noodle line, put that in too.

That’s an egg, put that in.

That’s a mixing thing, mix it.

Three cups- one for you,

Michelle, me.”



Marcel wrote and drew apple ice cream.



Scoring Procedures

- Organize and examine evidence
- Place evidence on the continuum for each strand in an item (1, 3, or 5)
- Examine the placement and assign an appropriate score for the item
- The scores of 2 or 4 are utilized when the strands are not equivalent



Training Approach

- Detailed guidebook
- Training Modules
- Workgroups
- Reliability assessment and feedback



Guidebook

- System description
- Using the system and scoring procedures
- Each item is supported by
 - Research base
 - Continuum descriptions
 - Ideas for teaching and documenting
 - Sample anecdotes
 - For further reading
- All necessary forms
 - Anecdotal record forms
 - Class record form
 - Child Accomplishments Summary



Training Modules

- Train the trainers or direct training
- Training sessions
 - Introduction to the system: Focus on observing and documenting
 - For each domain: Research, description of continuum, teaching ideas, practice with the instrument
 - Using the instrument: Focus on analyzing (scoring) and planning



Workgroups

- Monthly collegial meetings of 5-6 teachers with a teacher leader for 1 ½ hours
- 2 teacher presenters
- Protocol
 - Introduction
 - Presentation
 - Clarifying questions
 - Warm and cool feedback
 - Reflection
 - Debrief
- Feedback questions and summaries



Feedback From the Field

I am so pleased with the genuineness of the participants, the willingness to share perspectives and personal experiences, and the high level of educational discussions that took place today.

Master Teacher
Passaic, NJ



The important thing I learned while using ELS is that environment plays a critical role in children's learning and development.

Before I had done ELS I thought about myself as a good teacher who can set up the classroom and activities in the way that support children's development and learning across all domains. Now, I know that I was wrong.

After I have done ELS I realized that some of my children's needs are not met. I realized that I am responsible not only for children's language and literacy development but also for children's learning across all domains. I noticed that every day students in my classroom are willing to explore mathematical concepts but I need to add more concrete objects in my classroom areas. I need to provide materials that my students can explore and reflect upon.

Teacher
Passaic, NJ



Reliability Process

- 6 folios developed at NIEER by creators of the instrument
- Folios based on field data
- True scores determined by a group of experts
- Teachers were given 2 hours to score 3 folios at one time
- Exact agreement with the true scores calculated for each teacher



Research: NJ Reliability

- 2 assessments of trained teachers from one NJ district
- 57 teachers
 - First assessment directly following training
 - Second assessment completed after 1 or 2 score periods of using the instrument



NJ Reliability Results

	All Items	Poor Items Deleted
Average Reliability	71%	77%
Teachers Below 60% <i>Need retraining</i>	9 (16%)	1 (2%)
Teachers between 60 and 68% <i>Need support</i>	16 (28%)	15 (26%)
Teachers at 70% or Higher <i>Independent</i>	32 (56%)	41 (72%)
4 Trainers' Reliability	91%	98%



ELS in South Dakota

- South Dakota was developing statewide training for their Early Learning Standards
- Wanted a DAP authentic assessment to measure children's progress toward meeting the standards that could be included with the training
- Learned about the ELS at a previous PDI conference
- Met with NIEER staff to discuss the ELS



ELS in South Dakota

- Compared ELS with SD standards and found they matched very well
- The ELS covered major areas and helped to focus on important skills and understandings that could be measured
- Decided to incorporate the ELS in the Early Learning Guidelines Training to give teachers/providers an authentic assessment to help children make progress toward meeting standards



ELS in South Dakota

- Received training from NIEER on the instrument
- Incorporated the ELS into the Early Learning Guidelines Statewide Training
- Trained trainers as well as teachers in a Pilot PreK Program and offered the training for credit



Research: SD Reliability

29 Trainers received 10 hours of training via distance as part of the Early Learning Guidelines Trainers Training

**Average Agreement 77.5
Range 53 – 93
24 trainers at 70% or above**

7 Pilot PreK teachers and 2 Pilot PreK Administrators went through the ELS/ELG training face-to-face

Average Agreement 76.8
Range 70 – 90
9 teachers at 70% or above

13 Practicum students went through the ELS training as part of practicum seminars

Average Agreement 73.5
Range 53 – 97
9 students at 70% or above



Reliability of Similar Instruments

- Child Observation Record (COR) : High/Scope
 - .69-.73 agreement between 10 pairs of teachers and teaching assistants rating the same 41 children
 - .93 agreement for 10 research assistants
- Work Sampling System: Meisels, et. al
 - .88 raters' codes with each other on 33 summary reports
 - .68 & .73 for 2 raters' codes with teachers codes on the same summary reports
- Developmental Continuum: Creative Curriculum
 - No inter-rater reliability data



Research: Validity

- Cronbach Alpha .91
- Concurrent Validity
 - 285 children from 57 teachers across 10 schools
 - Trained classroom teachers conducted the ELS from November to February
 - Children assessed by NIEER assessors February to April:
 - Early Literacy Skills Assessment (ELSA)
 - DeBruin-Parecki (2005)
 - Child Mathematics Assessment (CMA)
 - Klein & Starkey (2000)
 - No assessment for Social Emotional/Social Studies and Science



Validity Results: Correlations

- Math/Science
 - ELS Math/Sci. total and CMA total $.46^{**}$
 - ELS Math/Sci. total and CMA subscales $.17^* - .43^{**}$
 - Lowest *Equiv. Sets and Division*
 - Highest *Counting*
 - CMA total and ELS Math/Sci. items $.35^{**} - .46^{**}$
 - Lowest *Observation*
 - Highest *Number*

* $p < .05$; ** $p < .01$



Validity Results: Correlations

- Language Arts Literacy
 - ELS LAL total and ELSA total $.39^{**}$
 - ELS LAL total and ELSA subscales $.16^{**}$ – $.37^{**}$
 - Lowest *Phonological Awareness*
 - Highest *Alphabetic Principal*
 - ELSA total and ELS LAL items $.23^{**}$ – $.33^{**}$
 - Lowest *Writing*
 - Highest *Print Awareness*

* $p < .05$; ** $p < .01$



Validity of Similar Instruments

- Child Observation Record (COR)
 - Concurrent validity with Cognitive Skills Assessment Battery
 - COR total moderately correlated .46-.62
- Work Sampling System
 - Concurrent validity with Woodcock Johnson Revised
 - WJ-R subscales with WSS checklist and Summary Report were .36-.75
- Developmental Continuum
 - Internal consistency .97



Contact Information

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