



#### assessment systems

# National and Florida Focus on School Readiness • What children know and can do when they enter kindergarten – In multiple domains







### Goal of a Screening Test

- Goal is to QUICKLY identify small number of children who need IMMEDIATE attention
- Test must be short and inexpensive as you want to screen EVERYONE.
- Screening is FIRST step in multi-step process (Need further follow-up with those who fail the screening test)











Test Says	True Condition		
	Ready	Not Ready	
Ready	Ready (True Negative)	False Negative (a)	
Not Ready	False Positive	Not Ready (True Positive) (c)	

**Sensitivity:** How good is the test in identifying the children who are *not ready* for school

**Sensitivity** = c/(a+c)

Test Says	True Condition		
	Ready	Not Ready	
Ready	Ready (True Negative) (b)	False Negative	
Not Ready	False Positive (d)	Not Ready (True Positive)	

**Specificity:** How good is the test in identifying children who are *ready* for school

**Specificity:** b/(b+d)













### Appropriately Designed Screening Test

- Small number of test items
- All items are at the same difficulty level (fairly easy)
- Goal is to identify small number of children who need IMMEDIATE attention
- Two kinds of error are dependent get more of one versus the other by where you set the pass/fail cut-off point
  - False positives (test says they are not ready when they are ready) – follow-up more costly
  - False negatives (test says they are ready when not ready) – miss children who need immediate attention
- Screening is meant to be FIRST step in multi-step process (Need further follow-up with FALSE POSITIVE and Not Ready Group)



"Mum, Dad, good news! My IQ test proved negative"

- Screening instruments vary in their sensitivity and specificity and the domains of school readiness that are assessed
- Choose screening instruments carefully to identify small group who need immediate attention
- Track screening information to determine how well your system is working:
- If missing too many "not ready" children: Is screening test valid for my population and what I am trying to identify?
  - If yes, raise cut-off score
  - If no, find a better screening test
- If identifying too many "ready" children as not ready: Is screening test valid for my population and what I am trying to identify?
  - If yes, lower cut-off score
  - If no, find a better screening instrument













## Multi-method and Multi-informant

- Obtained FROM Multiple Sources (e.g., teacher, parent, child, curriculum specialist, health worker, relevant others)
- Using multiple methods (e.g., observation, direct assessment, rating scales)



#### **Ordinal Level of Measurement**

#### Can only determine order, not how MUCH more

- Star Movie Rating System
- Star Hotel Rating System
- Low, Middle, High Income
- Rank in Army
- Regular, Choice, Prime Cut

My Doctor said "Only 1 glass of alcohol a day". I can live with that.



## Example of assessment system with ordinal level of measurement

<b>OBJECTIVE:</b> (Domain)	Date	Level 0	Level 1	Level 2	Level 3
Hears and discriminates the	Fall	*55.6	39.9	4.2	0.3
sounds of language (L)	Spring	2.8	23.6	39.8	33.8
Uses numbers and counting (M)	Fall	40.5	41.6	15.5	2.4
	Spring	1.5	7.0	27.0	64.5
Approaches problems flexibility	Fall	47.7	47.1	5.1	0.1
(AL)	Spring	1.7	17.9	44.7	35.8
Shows ability to adjust to new	Fall	31.8	53.6	13.3	1.3
situations (S)	Spring	0.7	6.2	31.0	62.1

\*Numbers in table are percentage of children at each level

Can't combine items within a domain; can't calculate gains across the year

## Interval Level of Measurement:

- Equates performance across all domains
- Measures TRUE interval level growth, regardless of initial level



Example of assessment system with interval level of					
measurement					
Domain	Fall	Spring	Gain		
Language & Literacy	451	565	114		
Early Math	473	582	109		
Social & Emotional	446	551	105		
Approaches to Learning	498	603	105		
Nature & Science	459	555	96		
Creative Arts	500	611	111		
Fine & Gross Motor Skills	502	606	104		
Physical Health Practices	485	574	89		

\*Numbers in table are developmental scores along an interval level continuum (like inches or lbs)

Can calculate interval level developmental score that can be compared across domains; can calculate gains and compare these across domains.

Knowledge Area	Discrimination	Difficulty
Phonological Awareness - Sound Recognition		
31. Recognizes matching and dissimilar sounds (consonants and vowels).	0.63	-0.13
32. Distinguishes between some beginning consonant sounds in spoken language.	1.32	0.42
33. Distinguishes between some ending consonant sounds in spoken language.	2.39	0.92
34. Says both syllables of a two-syllable word, with distinct separation.	2.82	1.23
35. Distinguishes between some vowel sounds in spoken language.	3.33	1.28
36. Recognizes rhymes in poems, readings, or conversation, most of the time.	2.57	1.66
37. Creates rhyming words in play activities.	2.37	1.97
Print Awareness and Concents		
50. Recognizes his/her name in print.	0.51	0.13
51. Recognizes that a spoken word/speech can be written and read.	1.04	0.42
52. Knows that print conveys information (i.e., a message) to the reader.	1.66	0.60
53. Recognizes that the left page is read before the right.	3.26	0.96
54. Understands the purpose of different forms of print (signs, newspapers, menus).	2.71	0.99
55. Recognizes that sentences are read from left to right.	2.84	1.34
56. Recognizes that pages are read from top to bottom.	2.37	1.65
57. Asks questions about the names of letters, words, signs, labels,	1.39	1.69
58. Recognizes that words are separated by spaces.	0.98	2.18
59. Predicts what word might come next in a familiar story, some of the time.	1.49	2.26
60. Identifies familiar short words in print, some of the time.	1.93	2.63
61. Reads a printed label or a sign on a familiar object, some of the time.	1.45	2.82
62. Reads familiar words in a sentence from a book/poem, with assistance.	1.66	2.99
63. Tracks by moving his/her finger along text as it is read by an adult	1.29	3.01

## When to Do 1<sup>st</sup> and Last Assessment

- Want to measure school readiness BEFORE children benefit from the program.
- Want to measure school readiness AT END of the program.
- Otherwise, you UNDERESTIMATE the impact of the Head Start experience.



## Importance of Mid-Year Review

- Opportunity to review areas where need to focus instruction on enhancing school readiness
- 5 months of learning time still available.



### School readiness is complex Take Home Messages: and not easy to assess, so choose your assessment system wisely

- Assess ALL school readiness domains ideally throughout the year, but at least EARLY in the program year, MIDYEAR and LATE in the program year
- Use these data to individualize instruction and improve program practices

## SOFT SHOULDER BLIND CURVES STEEP GRADE

## FLORIDA HEAD START RESEARCH CONFERENCE DECEMBER 3-5, 2008 HILTON, OCALA

#### **RESEARCH REVEALS SOLUTIONS**

**ROOM BLOCKS ARE FILLING UP – REGISTER SO AS NOT TO MISS THIS EVENT** 

