

# **E-411 PRMA**

## **LECTURE 17 - EDUCATION**

Christopher David Desjardins

## **LAST TIME**

Intelligence tests

Introduced testing in education

# **HOW DO WE USE TESTS IN EDUCATION?**

# RESPONSE TO INTERVENTIONS

- **Specific learning disability**, a disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, that may manifest itself in an imperfect ability to listen, think, speak, read, write, spell, or to do mathematical calculations
- SLD diagnosis based on a **response to intervention**

# RTI

- Data driven
- Multilevel preventive approach
  - Regular instruction
  - Small-group instruction
  - Individual instruction
- Instruction, evaluation, intervention, reevaluation  
(repeat)
- Can be developed school-wide or tailored individually
- Multiple sources should be used with diagnosis (an **integrative assessment**)

# DYNAMIC ASSESSMENTS

- Based on a test-intervention-retest model
- Focuses on your learning potential or **zone of proximal developmental**
- Test administrator actively cheers you on and prepares you to be retested

What is the difference between an achievement and an aptitude test?

How do their uses differ?

Is it possible to write an item that measures achievement and not aptitude or vice versa?

# ACHIEVEMENT VS. APTITUDE TESTS

- Achievement test, measures degree to which you have acquired knowledge or skill, typically as a function of instruction or training.
  - Relatively defined learning experience
- Aptitude test, focus more on informal learning or life experiences. "Culmination of what you know".
  - Less defined

# ACHIEVEMENTS TEST AND USES

- May cover many academic areas and be divided into subtests (**batteries**)
- Norm, criterion-referenced, or both
- Batteries are used as practice tests; to locate what test a student should take; co-normed with aptitude tests to allow comparison
- **Curriculum-based assessment** - measurements that use a student's performance on local curriculum as a basis for gathering information to make instructional decisions.
- **Must align with educational objectives and curriculum!**
- End of HR exam in psychology?

# TYPES OF QUESTIONS

- Fact-based items
- Conceptual items

# APTITUDE TESTS

- Prognosis or readiness tests
  - SAT, ACT, GRE, LSAT, MCAT, TIMSS, PISA
- Preschool level could include rating scale or checklists, like CBCL
  - Anxiousness, withdrawn, somatic complaints, social problems, thought problems, attention problems, rule-breaking behavior, and aggressive behavior
  - Connor's test for ADHD

# GRE

- Measures graduate school readiness
- Used by graduate schools in the USA and elsewhere
- Forms a fraction of graduate school admissions decisions (as well as undergraduate GPA, letters of recommendation, etc.)
- Verbal & quantitative reasoning (130 - 180; 1 point increments) and analytical writing (0 - 6; 0.5 point increments)
- Question Types
  - VR: RC; TC; SE
  - QR: compare; MC; MMC; NE
  - AW: Analyze an issue; Analyze an argument;

# PISA

- Designed to assess the extent students at the end of compulsory education, can apply their knowledge to real-life situations and are equipped for full participation in society.
- Every 3 years, 15 year olds in randomly selected countries world wide participate.
- Tests reading, mathematics, and science but a different focus each administration.
- 2 hours long, open-ended and multiple-choice
- <http://tinyurl.com/pbj53ad>

# **FORMATIVE VS. SUMMATIVE ASSESSMENT**

**Formative assessment** assessing learning/instruction while learning is occurring to inform instructional process (monitoring)

*What are some formative assessment methods?*

**Summative assessment** - assessing after learning/instruction has occurred

*What are some summative assessment methods?*

# **DIAGNOSTIC VS. EVALUATIVE PURPOSES**

**Evaluative information** - tests are used to make judgements

Pass or fail a course, program

Admission to a program

**Diagnostic information** - tests are used to identify

difficulties for remedial services

**diagnostic test**

# DIAGNOSTIC TESTS

- May consist of multiple subtests
- Designed to identify the missing knowledge/skill
- Typically, easier than evaluative tests
- Doesn't answer *why*
- Often focus on **reading** and **mathematics**

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# WOODCOCK READING MASTERY

RED LEVEL FORM B  
TEST BOOKLET

## Stanford Diagnostic Reading Test

Bjorn Karlsen  
Richard Madden  
Eric F. Gardner



uses: Evaluate struggling readers; screen for reading readiness; determine student selection and placement; monitor reading growth; evaluate program effectiveness; research; implement best practices in the RTI environment  
nationally representative: 3,300 USA nationally representative.

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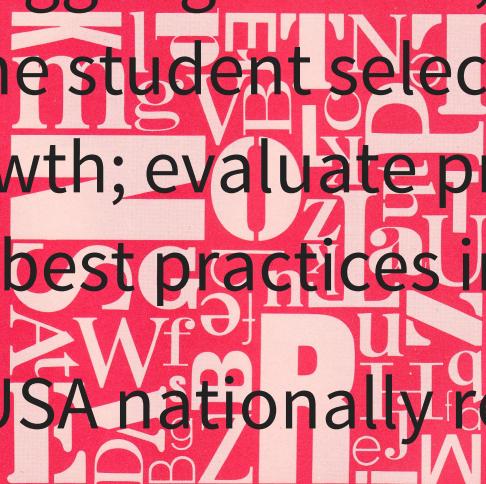
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target: 4.5 to 80 year olds

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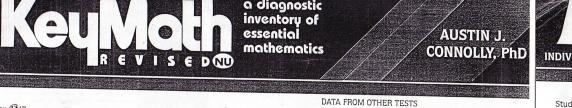
Bjorn Karlsen  
Richard Madden

Grade	1	Test date	09	Month	09	Day	58	Test	form A	Date	9/10/08	Results
Ke		Birth date	02		08		12					
		Chronological age	1		1		26					

## **SCORE SUMMARY**

Standard Scores and Scaled Scores		Grade	Age	See Table 8 for percentile ranks, stanines, and normal curve equivalents. Obtain grade equivalents and age equivalents from Tables 10 and 11, respectively.			
Full norms (August-January)	Table 1	Table 2	Table 3	Table 4			
Spring norms (February-July)							
<b>OPERATIONS</b>							
Subtest	Raw Score	Scaled Score	Order Rank	APPLICATIONS			
Addition	( 2 )	13	84	Subtest	Raw Score	Scaled Score	Order Rank
Subtraction	( 2 )	10	50	Measurement	( 10 )	15	95
Multiplication	( 1 )	NH	-	Time and Money	( 7 )	15	95
Division	( 3 )	NH	-	Estimation	( 2 )	2	103
Mental Computation	( 0 )	NH	-	Interpreting Data	( 3 )	NH	-
<b>OPERATIONS AREA</b>							
Raw Score		Standard Score	101	%ile Rank	68		
2.							
<b>APPLICATIONS AREA</b>							
Raw Score		Standard Score	117	%ile Rank	87		
3.							
Grade/Age Equivalent	1.6	Grades/Age Equivalent	2.4	(optional)	(optional)		

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Grade, 1	YEAR 1	MONTH 08	DAY 35	Test form A	Date 9/10/08	Results
Test date 10-8-09	Birth date 02 8	Chronological age 1 12				

**SCORE SUMMARY**

Score Summary			
Standard Scores and Scaled Scores		Grade	Age
Full norms (August–January)	Table 1	Table 2	Table 3
Spring norms (February–July)	Table 3	Table 4	

See Table 9 for percentile ranks, stanines, and normal curve equivalents. Obtain grade equivalents and age equivalents from Tables 10 and 11, respectively.

Norms used:  Updated  Original

Concepts		Operations			Applications				
Score	Grade	Subtest	Raw Score	Scaled Score	%ile Rank	Subtest	Raw Score	Scaled Score	%ile Rank
14	91	Addition	(6)	13	84	Measurement	(1)	15	95

Standard Score		%ile Rank			Standard Score		%ile Rank		
(129)		97			(101)		68		
Raw Score 129		97			Raw Score 101		68		
B919		B920			B117		87		
2.					3.				
Grade/Age Equivalent		1.6			Grade/Age Equivalent		2.4		
12 + 22 = 100					119		88		
Total Test Raw Score					Standard Score		%ile Rank		
2.					75		8		
3.					NCE		Scoreline		
(optional)					2.3		7-7		
TO TEST					Grade Equivalent		Age Equivalent		

The image shows the front cover of the "KeyMath Revised Edition" diagnostic inventory of essential mathematics. The title "KeyMath" is prominently displayed in large, bold, white letters at the top left. Below it, "REVISED EDITION" is written in smaller white letters. To the right of the title, the subtitle "a diagnostic inventory of essential mathematics" is written in a smaller, white, sans-serif font. At the bottom right, the author's name "AUSTIN J. CONNOLLY, PhD" is printed in white. The background of the cover features a dark, textured pattern of diagonal lines.

<u>Larsen</u>		<u>Sex</u>	<u>M/F</u>	DATA FROM OTHER TESTS					
<u>Grade</u>		<u>1</u>	<u>Test date</u>	<u>YEAR</u>	<u>MONTH</u>	<u>DAY</u>	<u>Test</u>	<u>Date</u>	<u>Results</u>
			<u>Birth date</u>	<u>09</u>	<u>08</u>	<u>08</u>	<u>form A</u>	<u>9/10/08</u>	
			<u>Chronological age</u>	<u>02</u>	<u>08</u>	<u>12</u>			
				<u>1</u>	<u>1</u>	<u>21</u>			

## SCORE SUMMARY

See Table B for percentile ranks, stanines, and normal curve equivalents.

Standard Scores (August-January)	Grades	Age
Table 1	Table 1	Table 2

CONCEPTS		Spring norms (February-July)			Table 3			Table 4			Norms used: <input checked="" type="checkbox"/> Updated <input type="checkbox"/> Original		
Scaled Score	%ile Rank	OPERATIONS			APPLICATIONS								
		Subtest	Raw Score	Scaled Score	%ile Rank	Subtest	Raw Score	Scaled Score	%ile Rank	Subtest	Raw Score	Scaled Score	%ile Rank
14	91	Addition	( 6 )	13	84	Measurement	( 10 )	15	95	Time and Money	( 7 )	15	95
NA	NA	Subtraction	( 2 )	10	50	Estimation	( 2 )	11	62	Interpreting Data	( 3 )	NA	—
16	98	Multiplication	( 1 )	NA	—	Problem Solving	( 1 )	NA	—				
		Division	( 3 )	NA	—								
		Mental Computation	( 0 )	NA	—								
Standard Score		OPERATIONS AREA			Standard Score, %ile Rank			60th Bank			APPLICATIONS AREA		

## **RE SUMMARY**

BASIC CONCEPTS			OPERATIONS			APPLICATIONS		
	Raw Score	Scaled Score	Subtest	Raw Score	Scaled Score	Subtest	Raw Score	Scaled Score
Numbers	( 1 )	14	Addition	( 2 )	13	Measurement	( 1 )	15
	( 3 )	NA	Subtraction	( 2 )	10	Time and Money	( 7 )	10
	( 2 )	110	Multiplication	( 1 )	NA	Estimation	( 2 )	11
		98	Division	( 3 )	NA	Interpreting Data	( 3 )	NA
			Mental Computation	( 0 )	NA	Problem Solving	( 1 )	NA
CONCEPTS AREA			OPERATIONS AREA			APPLICATIONS AREA		
Raw Score	26	Standard Score	129	Raw Score	126	Raw Score	117	Standard Score
1.	93.19	%ile Rank	97	2.	101	%ile Rank	68	%ile Rank
Grade/Age Equivalent	3.1	Grade/Age Equivalent	1.6	Grade/Age Equivalent	2.4	Grade/Age Equivalent	2.4	Grade/Age Equivalent
160 + 12 + 72 = 244		118 88		100		100		100

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2543



Jefferson	Grade	1	YEAR	2018	Test	Date	Results
Ics Teacher,	Test date	09/20/18	MONTH	08	Form A	9/10/18	
Sarah Jeske	Birth date	02/12/12	DAY	18			
	Physical age	12					

See Table 9 for percentiles and normal curve equivalents. Main grade equivalents and equivalents from Tables 10 and 11, respectively.

The logo for KeyMath Revised Nlu. It features the word "KeyMath" in a large, bold, white serif font. Below it, "REVISED NLU" is written in a smaller, white, sans-serif font. To the left of the main title, there is a small white icon of a person's head profile facing right. At the bottom left, the words "AL TEST RECORD" are printed in a small, white, sans-serif font. To the right of the main title, the text "a diagnostic inventory of essential mathematics" is written in a white, sans-serif font. In the top right corner, "AUSTIN J. CONNOLLY, PhD" is printed in a white, sans-serif font.

Name	Hans Larsen	Sex	M	DATA FROM OTHER TESTS																																																								
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## **SCORE SUMMARY**

BASIC CONCEPTS		OPERATIONS			APPLICATIONS	
		Raw Score	Scaled Score	Raw Score	Scaled Score	Raw Score
		Percentile Rank	Percentile Rank	Percentile Rank	Percentile Rank	Percentile Rank
Numbers	( <u>11</u> )	<u>14</u>	<u>NA</u>	<u>13</u>	<u>84</u>	<u>100</u>
	( <u>3</u> )	<u>NA</u>	<u>NA</u>	<u>10</u>	<u>50</u>	<u>100</u>
	( <u>12</u> )	<u>110</u>	<u>98</u>	<u>1</u>	<u>NA</u>	<u>100</u>
CONCEPTS AREA		Standard Score	%ile Rank	Standard Score	%ile Rank	Standard Score
Raw Score	<u>210</u>	<u>129</u>	<u>97</u>	Raw Score	<u>120</u>	<u>101</u>
1.	<u>119</u>	<u>93</u>	<u>210</u>	2.	<u>68</u>	<u>68</u>
Grade/Age Equivalent	<u>3.1</u>			Grade/Age Equivalent	<u>1.6</u>	
Raw Score	<u>210</u>	<u>129</u>	<u>97</u>	Raw Score	<u>120</u>	<u>101</u>
Grade/Age Equivalent	<u>3.1</u>			Grade/Age Equivalent	<u>1.6</u>	

(optional)

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Teacher Sarah Jeske	Grade 1	Set # 1	YEAR 09	MONTH 08	DAY 30
cs Teacher		Test date 10-8-09	Birth date 02-08-08	Chronological age 7	Actual age 1-2-09
			Test form A		
			Date 9/10/09		

Score Summary					
Standard Scores and Scaled Scores			Grade		
Fall norms (August-January) Spring norms (February-July)			Age		
			Table 1 Table 3 Table 4		
See Table 3 for percentile ranks, etc. Learns: Obtain grade equivalents and Norms used. <input type="checkbox"/> Updated					
<b>BASIC CONCEPTS</b> Raw Score      Standard Score      %ile Rank 14            NA            91 3            160            98 12            NA            98			<b>OPERATIONS</b> Subtest      Raw Score      Scaled Score      %ile Rank Addition      13            84 Subtraction      10            50 Multiplication      11            NA Division      3            1 Mental Computation      0            NA		
<b>CONCEPTS AREA</b> Raw Score <b>260</b> 1. Standard Score <b>129</b> 2. %ile Rank <b>97</b> 3. Raw Score <b>219</b>			<b>APPLICATIONS AREA</b> Raw Score <b>10</b> 1. Standard Score <b>10</b> 2. %ile Rank <b>68</b>		
<b>OPERATIONS AREA</b> Raw Score <b>10</b> 1. Grade/Age Equivalent <b>3.1</b> 2. Raw Score <b>119</b> 3. %ile Rank <b>83</b> 4. Total Test Raw Score <b>222</b>			<b>APPLICATIONS AREA</b> Raw Score <b>1.6</b> 1. Grade/Age Equivalent <b>2.4</b> 2. Raw Score <b>118</b> 3. %ile Rank <b>88</b> 4. NCE <b>75</b> 5. Stanine <b>8</b> (optional)		

The cover of the KeyMath Revised Test Record. It features a dark background with a large, stylized title 'KeyMath' in white. Below it, 'REVISED EDITION' is written in a smaller, bold font. To the right of the title is a vertical box containing the text 'a diagnostic inventory of essential mathematics'. In the bottom left corner, there is a small icon of a person sitting at a desk with a pencil and paper, labeled 'TEST RECORD'.

Name <u>Hans Larsen</u>		Sex <u>M</u>	YEAR <u>2017</u>			DATA <u>18</u>		Test <u>form A</u>		Date <u>9/10/08</u>																																																													
Teacher <u>Sarah Jeske</u>		Grade <u>1</u>	Test date <u>02/08/08</u>	MONTH <u>02</u>	DAY <u>08</u>																																																																		
		Date <u>10-8-09</u>	Birth date <u>02/08/12</u>																																																																				
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# ESCHOEDUCATIONAL BATTERIES

electrolyte  
education  
achieve  
brighter  
education  
achieve  
brighter

informative  
communicate  
photo plan

# KAUFMAN ASSESSMENT BATTERY FOR CHILDREN

- Measures intelligence and achievement
- Kaufmans focus on information-processing aspect of intelligence
  - Simultaneous - all at once
  - Sequential - processing in a series
- Table 11 - 3
- Unclear factor structure
- Also can be used with the CHC model ... but how?

# WOODCOCK-JOHNSON IV

- Contains three batteries
  - Cognitive ability
  - Achievement
  - Oral language
- Administer together or individually
- [Assessment Service Bulletin](#)

# PERFORMANCE

- **Performance task** - a work sample design to elicit representative knowledge, skills, and values from a domain of study
- **Performance assessment** - evaluation of these tasks
- How might we use performance assessment in class? HR?

# PORTFOLIO

- What is a portfolio and what are some examples of a portfolio?
- A sample of your work
- How might we use a portfolio in class? HR?
- What are some ways you use a portfolio?
- Major issue, potential subjectivity in scoring

# AUTHENTIC ASSESSMENT

- A form of performance assessment is *authentic assessment*
- A task that evaluates your ability to transfer knowledge from the classroom to the real-world
- Major issue, could be affected by what you already know

# PEER APPRAISAL AND OTHER MEASUREMENTS IN EDUCATION

peers assign a score or ranking to you

"Which student would you rather work on a class project with?"

"Which student is the most popular"

these are often dynamic

Other inventories measure study habits, interests, and attitudes