Overview of the Differential Ability Scales-Second Edition
Gloria Maccow, Ph.D., Assessment Training Consultant

Overview

Agenda
- describe the purpose of the DAS-II;
- describe the structure of the DAS-II and features of the subtests;
- describe the general directions for administration; and
- describe scoring and interpretation.

Author’s Perspective

“The Differential Ability Scales – Second Edition (DAS-II) helps you find out why a child isn’t learning, and targets the specific nature of the problem, so that appropriate intervention strategies can be identified.”

— Dr. Carol D. Sullivan, Author of DAS and DAS-II
Description of DAS-II

- Individually administered clinical instrument consisting of 20 subtests.
- Designed to assess cognitive abilities of children and adolescents from 2 years 6 months through 17 years 11 months.

Purposes and Uses

Classification
The composite score can be used in making classification and placement decisions.

Diagnostic
A reliable profile of intra-individual cognitive strengths and weaknesses is needed to determine, for example, why a child is struggling to learn to read and what methods we can use to improve learning.

Historical Perspective

2006 Publication of Differential Ability Scales-II.
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Structure of Abilities
Cattell-Horn and Carroll (CHC) Broad Cognitive Abilities

- Gc: Crystallized (verbal) intelligence
- Gf: Fluid Intelligence/Reasoning
- Gv: Visual-Spatial Processing
- Glr: Long-term Storage and Retrieval
- Gs: Cognitive Processing Speed
- Gsm: Short-term Memory
- Ga: Auditory Processing

DAS-II: Batteries

<table>
<thead>
<tr>
<th>Battery</th>
<th>Ages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Early Years</td>
<td>2:6 - 6:11</td>
</tr>
<tr>
<td>Lower Level</td>
<td>2:6 - 3:5</td>
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<tr>
<td>Upper Level</td>
<td>3:6 - 6:11</td>
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<tr>
<td>School-Age</td>
<td>7:0 - 17:11</td>
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</tbody>
</table>
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Early Years Battery
Ages 2:6 – 3:5 (Lower Level)

- Core Subtests:
  - Verbal Comprehension
  - Naming Vocabulary
  - Picture Similarities
  - Pattern Construction

- Diagnostic Subtests:
  - Recall of Digits Forward
  - Recognition of Pictures
  - Early Number Concepts

- GCA
- Verbal Ability
- Nonverbal Ability

Early Years Battery
Ages 3:6 – 6:11 (Upper Level)

- Core Subtests:
  - Verbal Comprehension
  - Naming Vocabulary
  - Picture Similarities
  - Matrices
  - Pattern Construction
  - Copying

- Supplemental Score:
  - Special Nonverbal Composite
  - PSim + PCon + Mat + Copy

- GCA
- Verbal Ability
- Nonverbal Reasoning Ability
- Spatial Ability

- School Readiness
  - Matching Letter-Like Forms
  - Phonological Processing

- Working Memory
  - Recall of Sequential Order
  - Recall of Digits Backward

- Processing Speed
  - Speed of Information Processing
  - Rapid Naming

- Recall of Objects
  - Immediate
  - Delayed
  - Recall of Digits Forward
  - Recognition of Pictures
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**Early Years Battery Diagnostic Subtests by Age Group**

- **Ages 5:0 – 6:11 only**
  - Recall of Objects-Immediate
  - Recall of Objects-Delayed
  - Recall of Digits Forward
  - Recognition of Pictures
- **Ages 4:0 – 4:11 only**
  - Recall of Objects-Immediate
  - Recall of Objects-Delayed
  - Recall of Digits Forward
  - Recognition of Pictures
- **Ages 3:6 – 3:11 only**
  - Recall of Digits Forward
  - Recognition of Pictures
  - Early Number Concepts

**School-Age Battery**

**Ages 7:0 – 17:11**

- **Core Subtests**
  - Word Definitions
  - Verbal Similarities
  - Matrices
  - Sequential and Quantitative Reasoning
  - Recall of Designs
  - Pattern Construction
  - Supplemental Score

- **Verbal Ability**
- **Nonverbal Reasoning Ability**
- **Spatial Ability**
- **GCA**

- **Special Nonverbal Composite**
  - RDes + PCon + Mat + SQR

**School-Age Battery**

**Ages 7:0 – 17:11 (Upper Level)**

- **Diagnostic Subtests**
  - Recall of Sequential Order
  - Recall of Digits Forward
  - Recall of Digits Backward
  - Speed of Information Processing
  - Rapid Naming
  - Phonological Processing
  - Recognition of Pictures

- **Working Memory**
- **Processing Speed**

Note: Phonological Processing may be administered up to age 12:11 as a diagnostic subtest.
### Median Administration Time

<table>
<thead>
<tr>
<th>Subtest</th>
<th>Time</th>
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<tbody>
<tr>
<td><strong>Core Subtests</strong></td>
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<tr>
<td>Early Years [Ages 2:6-3:5]</td>
<td>20 min.</td>
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<tr>
<td>School Age [7:0-17:11]</td>
<td>39 min.</td>
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<td><strong>Diagnostic Subtests</strong></td>
<td></td>
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<tr>
<td>Working Memory</td>
<td>12 min.</td>
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<tr>
<td>Processing Speed</td>
<td>9 min.</td>
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<tr>
<td>School Readiness</td>
<td>17 min.</td>
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</tbody>
</table>

**Test Materials**

p. 14 ADM. Manual

**DAS-II Materials**

![Differential Ability Scales - II Materials](image)
General Information
Battery Selection
Subtest Selection

Subtest Administration
Item Sets
Basal and Ceiling
Fixed Start Point and Discontinue Rule

Ensure understanding of the task
- Repeat or rephrase directions or items
  - Not for short-term/working memory tasks
- Demonstrate with samples
- Teach after failure on designated items
- Question or encourage more elaborate responses
### Item Sets

- All core subtests
- Diagnostic Subtests – Recognition of Pictures, Early Number Concepts, Matching Letter-Like Forms

### Item Sets

- Reduce administration time
- Make maximum use of child’s energy and efforts
- Facilitate rapport

In general, use set of items with at least 3 passes and at least 3 failures - (3x3 rule).

### Decision Points

When decision point reached

1. **Stop** subtest when child has failed at least 3 items of all items administered and has passed at least 3 items of all items administered.
Decision Points

When decision point reached

2. **Continue** with subtest and administer more difficult items if the child has not failed at least 3 items prior to reaching the item set decision point.
   (Fewer than 3 failures, continue)

Decision Points

When decision point reached

3. **Go back** to an earlier start point if the child has not passed at least 3 items at the decision point. Administer items in forward sequence.
   (Fewer than 3 passes, go back)

Clarifying Alternative Stop Rules

When alternative stop point criterion met
- if at least 3 passes on all items, STOP
- if fewer than 3 passes on all items given, GO BACK to an earlier start point.
Alternative Stop Point Rule

When using alternative stop point, score remaining unadministered items as if administered and failed (p. 37 Adm. Manual).

Appropriate Item Set

- p. 41 Adm. Manual

Item Set – Ability Score

- Use item set with items that are moderately difficult for the child.
- Do not choose an item set if the ability score is shaded – indicates a more accurate item set is available.
- If choice between 2 item sets, choose set with ability score with lowest SEM.
- If 2 item sets give scores with same SEM, choose the longer one in which score is based on more items.
Basal and Ceiling

- Recall of Digits Forward
- Recall of Digits Backward
- Recall of Sequential Order

**Basal Level:** No more than one failure in a block.

**Ceiling Level:** No more than one pass in a block.

Fixed Start Point and Discontinue Rule

- Recall of Objects
- Phonological Processing
- Rapid Naming

Recall of Objects-Immediate

- Start Point Ages 4:0 – 17:11: Trial 1.
- Do not discontinue. Administer all three trials.
- EXCEPTION: If child recalls all 20 objects in both Trials 1 and 2, do not administer Trial 3. Instead, award 20 points for Trial 3.
- Trial 1: Exposure 45 seconds; Recall 45 seconds.
- Trial 2: Exposure 20 seconds; Recall 40 seconds.
- Trial 3: Exposure 20 seconds; Recall 40 seconds.
Subtest Administration
Specific Directions – See RF and Administration and Scoring Manual

DAS-II Translations
Administration directions for all nonverbal subtests are translated into:
- Spanish language
- American Sign Language

Calculating Chronological Age

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<tr>
<th></th>
<th>Year</th>
<th>Month</th>
<th>Day</th>
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<td>5</td>
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<td>Date of Birth</td>
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<tr>
<td>Age at Testing</td>
<td>6</td>
<td>3</td>
<td>24</td>
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(Disregard the Days)
Table 2.2. Acceptable Substitutions for Core Subtests by Battery

<table>
<thead>
<tr>
<th>Core Subtests</th>
<th>Acceptable Substitute</th>
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<tbody>
<tr>
<td>Early Years Battery (5:0 – 8:11)</td>
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<tr>
<td>Verbal Comprehension</td>
<td>Verbal Similarities</td>
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<tr>
<td>Naming Vocabulary</td>
<td>Word Definitions</td>
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<tr>
<td>Picture Similarities</td>
<td>Sequential and Quantitative Reasoning</td>
</tr>
<tr>
<td>Copying</td>
<td>Recall of Designs</td>
</tr>
<tr>
<td>School-Age Battery (5:0 – 8:11)</td>
<td></td>
</tr>
<tr>
<td>Word Definitions</td>
<td>Naming Vocabulary</td>
</tr>
<tr>
<td>Verbal Similarities</td>
<td>Verbal Comprehension</td>
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<td>Recall of Designs</td>
<td>Copying</td>
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<tr>
<td>Sequential and Quantitative</td>
<td>Picture Similarities</td>
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<tr>
<td>Reasoning</td>
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</table>

Verbal Ability Subtests

- Verbal Comprehension
- Naming Vocabulary
- Word Definitions
- Verbal Similarities

Verbal Comprehension

The child points to pictures or manipulates objects in response to oral instructions from the examiner.

Measures receptive language: understanding of oral instructions involving basic language concepts.
**Naming Vocabulary**

The child is shown an object or a picture and is asked to say its name.

Measures expressive language; knowledge of names.

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**Word Definitions**

The child is asked to tell the meaning of individual words.

“I will say a word, and you tell me what it means.”

What does ___ mean? or
Tell me what ___ is. or
What is a ___?

Measures knowledge of word meanings as demonstrated through spoken language.

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**Verbal Similarities**

The child describes how three things are similar or go together.

Measures verbal reasoning and verbal knowledge.
Nonverbal Ability
Picture Similarities (2:6 – 3:5)
Pattern Construction (2:6 – 3:5)

Picture Similarities
- The examiner shows the child a row of four pictures in the Stimulus Book and gives the child a card with a fifth picture.
- The child places the card under the picture that shares an element or concept.
  Measures nonverbal reasoning.

Pattern Construction
Set A: The child copies a two- or three-dimensional design with wooden blocks.
  Measures visual-perceptual matching, especially of spatial orientation, in copying block patterns.
Nonverbal Reasoning Ability Subtests

Picture Similarities (3:6 – 6:11)
Matrices
Sequential and Quantitative Reasoning

Matrices

Shown an incomplete matrix, the child selects from among four or six choices the figure that correctly completes the matrix.

Measures nonverbal reasoning: perception and application of relationships among abstract figures.

Sequential & Quantitative Reasoning

• In Set A, the child is shown a series of items, and then completes the series by providing the missing figure.
• In Set B, the child finds a relationship within each of two pairs of numbers, applies the relationship to an incomplete pair of numbers, and provides the missing number.
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Spatial Ability Subtests
Pattern Construction (3:6-17:11)
Copying
Recall of Designs

Pattern Construction
Set B: The child constructs a design by putting together flat squares or solid blocks with black and yellow patterns on each side.
Set C: putting together flat squares or solid blocks with black and yellow patterns on each side.
Sets B and C have timed and untimed options.
Measures nonverbal reasoning and spatial visualization in reproducing designs with colored blocks.

Alternative Scoring Procedure
Either before or during administration, you may decide to score the child’s performance according to the alternative scoring method.
This method allows you to calculate a score that reflects information about accuracy without taking speed into account.
The decision to score the test using the alternative scoring method does not affect how the items are administered.
**Copying**

The child copies a simple line drawing that is first made by the examiner or shown in a picture.

- Measures visual-perceptual matching and fine-motor coordination in copying line drawings.

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**Recall of Designs**

The child reproduces an abstract line drawing that is presented for 5 seconds and then removed.

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**Working Memory Subtests**

- Recall of Sequential Order
- Recall of Digits Backward
Recall of Sequential Order

A measure of visual-verbal working memory (short-term recall).

The child hears a list of parts of the body and is asked to order the list from highest to lowest (head to toe).

• Age range 5:0 through 17:11
• A measure of working memory
• Requires verbal-visual processing
• Three conditions:
  - Recall of body parts with picture as aid
  - Recall of body parts without picture
  - Recall of body parts and other object names

Recall of Digits Backward

• Age range 5:0 through 17:11.
• A measure of working memory.
• Presentation rate—2 per second.
• Basal and ceiling rules the same as for Recall of Digits Forward.
Recall of Digits Backward

- Recall of Digits–Backward
  - Working memory, short-term auditory memory and oral recall of sequences of numbers
- Child repeats in reverse order a sequence of digits presented orally
- Read at rate of 2 per second

Say: I am going to say some numbers. When I stop, I want you to say the numbers backwards. If I say . . . , you would say . . . So, if I say . . . , what would you say?

If the child repeats the digits in a different way (e.g., “fifty-eight” instead of “five-eight”) give credit but say: Try to say them just like I do.

Processing Speed
Speed of Information Processing
Rapid Naming
**Speed of Information Processing**

In Booklet A, the child scans rows of circles containing small boxes and indicates, within a specified time limit, which circles have the most boxes.

In Booklets B and C, the child scans rows of numbers and circles the highest number within a specified time limit.

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**Rapid Naming (Ages 5:0 – 17:11)**

Assesses automaticity of integration of visual symbols with phonologically referenced naming.

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**Rapid Naming**

- Age range 5:0 through 17:11
- Item types:
  - Color Naming
  - Picture Naming
  - Color-Picture Naming
- 120 seconds per task
- Between-task performance comparisons
Diagnostic Subtests
Recall of Objects Immediate
Recall of Objects Delayed
Recall of Digits Forward
Recognition of Pictures
Phonological Processing

Recall of Objects
The Recall of Objects subtest consists of two parts:
- Recall of Objects–Immediate
- Recall of Objects–Delayed.

For each of the three Immediate Recall trials, the child views a card with pictures of 20 objects for a specified amount of time.
After the card is removed, the child recalls as many objects as possible.

Recall of Objects
During the Recall of Objects–Delayed, the Recall of Objects card is placed face down in front of the child, but the pictures are not exposed again.

The child recalls as many objects as possible.
Recall of Digits Forward

- Recall of Digits–Forward
  - short-term auditory memory and oral recall of sequences of numbers
- Child repeats a sequence of digits presented orally
- Read at 2 per second

Recognition of Pictures

- The child is shown a picture of one or more objects for 5 seconds.
- The child then selects the previously viewed object(s) from a second pictorial array that includes distracters.

Phonological Processing (Ages 5:0 – 12:11)

Assesses knowledge of sound structure of the English language and the ability to manipulate sound.
Phonological Processing

Four components:
- Rhyming
- Blending
- Deletion
- Phoneme identification and segmentation

Between-component comparisons

Scoring and Interpretation

Scoring
- Sum correct responses for each subtest.
- Use Record Form to ID corresponding ability score (with SeM).
- Use table (scoring software) to convert to T-score.
- Sum core subtest T-scores and convert to standard score for cluster.
Interpretation

1. Report and describe the General Conceptual Ability score or the Special Nonverbal Composite.
2. Report and describe the cluster scores.

Definition of Cluster Scores

<table>
<thead>
<tr>
<th>Cluster/Composite</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Verbal Ability</td>
<td>measure of acquired verbal concepts and knowledge</td>
</tr>
<tr>
<td>Nonverbal Ability</td>
<td>measure of nonverbal mental processing</td>
</tr>
<tr>
<td>Nonverbal Reasoning Ability</td>
<td>measure of nonverbal, inductive reasoning</td>
</tr>
<tr>
<td>Spatial Ability</td>
<td>measure of complex visual-spatial processing</td>
</tr>
</tbody>
</table>
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### Differential Ability Scales-Second Edition (DAS-II)

<table>
<thead>
<tr>
<th>Composite/Cluster/Core Subtest</th>
<th>Standard Score (Mean=100)</th>
<th>T-Score (Mean=50)</th>
<th>Percentile Rank</th>
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<tbody>
<tr>
<td>General Conceptual Ability</td>
<td>97</td>
<td>42</td>
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<td>Verbal Ability</td>
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<td>Verbal Similarities</td>
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<td>Word Definitions</td>
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<td>58</td>
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<tr>
<td>Nonverbal Reasoning Ability</td>
<td>89</td>
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<td>Matrices</td>
<td>43</td>
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<tr>
<td>Sequential &amp; Quantitative Reasoning</td>
<td>44</td>
<td>27</td>
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<td>Spatial Ability</td>
<td>102</td>
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<tr>
<td>Recall of Designs</td>
<td>51</td>
<td>54</td>
<td></td>
</tr>
<tr>
<td>Pattern Construction</td>
<td>52</td>
<td>58</td>
<td></td>
</tr>
</tbody>
</table>

### Interpretation

1. Evaluate differences between core clusters
2. Evaluate differences between subtests within core clusters
3. Evaluate core subtest relative Ss and Ws

### Diagnostic Cluster

- Report and Describe
- Compare clusters with GCA
- Evaluate differences between clusters
- Evaluate differences between subtests within cluster
- Evaluate relative Ss and Ws
How to Intervene?

Even when we believe we understand the cause of a pattern of scores, we have various intervention choices

- Ignore the data, and teach using CBM
- Teach processing skills in the specific area of weakness
- Teach educational skills (e.g., reading) using cognitive strengths to compensate for weaknesses

Conclusions

- Cognitive test scores can NEVER lead directly to interventions.
- Clinical judgment is ALWAYS necessary in interpreting cognitive test results.
- The essential role of cognitive test scores is to give us insight or UNDERSTANDING of the way an individual processes information.
- Cognitive test scores are necessary, but not sufficient, for our understanding of the child.
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Additional Resources

- DAS-II Scoring Assistant.
- DVD demonstration of signing for administration in American Sign Language.
- DAS-II Website with FAQs (and answers!)

www.DAS-II.com

For more information contact your Pearson Assessment Consultant

<table>
<thead>
<tr>
<th>Name</th>
<th>Telephone</th>
<th>Geographic Areas</th>
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<tbody>
<tr>
<td>Diane Donahue</td>
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<td>Anice Flowers</td>
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<td>Diane Grimes</td>
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</tr>
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<td>Jim Simone</td>
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<tr>
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<tr>
<td>Jan Zawia</td>
<td>800.627.7271 x 267055</td>
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Questions and Comments

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