



# **Webinar 14/05/2024: Detailed Assessment of the Speed of Handwriting Second Edition (DASH-2)**

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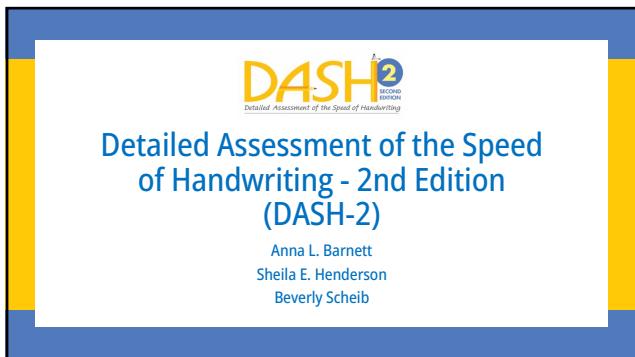
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# Detailed Assessment of Speed of Handwriting - Second Edition



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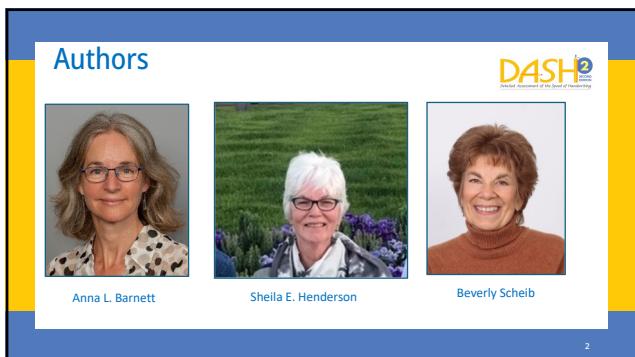
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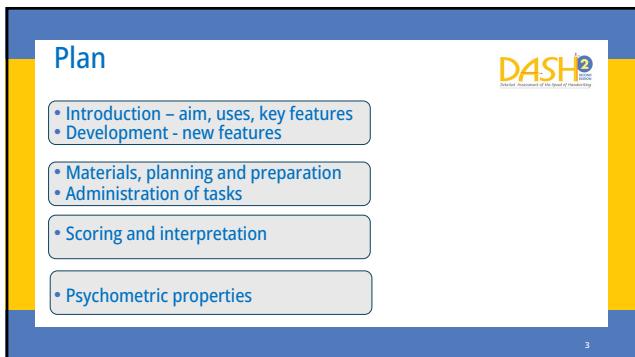
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# Detailed Assessment of Speed of Handwriting - Second Edition

## Learning outcomes



- List the uses of DASH-2
- Outline how to prepare for testing
- Explain how to administer each task
- Describe how to obtain a Total Standard Score
- Describe how qualitative information from DASH-2 contributes to an understanding of an individual's handwriting difficulties

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## Plan



- Introduction – aim, uses, key features
- Development - new features
- Materials, planning and preparation
- Administration of tasks
- Scoring and interpretation
- Psychometric properties

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## Handwriting - an important skill



- Recording information
- Expressing thoughts
- Communicating ideas
- Involved in assessment



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# Detailed Assessment of Speed of Handwriting - Second Edition

## Aim of DASH-2



- To provide a reliable measure of the speed of handwriting, while taking account of legibility
  - Includes a range of functional handwriting tasks
  - Provides quantitative and qualitative information

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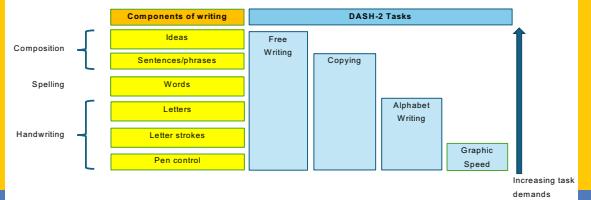
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## Theoretical foundations



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## Uses of DASH-2



- Identify individuals with handwriting difficulties
- Determine eligibility for extra support, including accommodations/access arrangements
- Provide a detailed description of handwriting performance
- Monitor progress and evaluate the effectiveness of intervention
- Aid research

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# **Detailed Assessment of Speed of Handwriting - Second Edition**

Handout 1

You have heard about the range of uses of DASH 2. Make believe that DASH would use the tool as your own practice writing (e.g. writing an individual narrative or a group writing piece) of using the tool.

Handout 1

**DASH**  
Digital Assessment of the Spoken & Handwriting

## Handout 1

**Handouts can be found in your course materials (after the Power Point slides)**

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DASH 360°  
Selected assessment of the power of handwriting

# Action Point

Please pause the presentation now to carry out the action

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## Previous versions



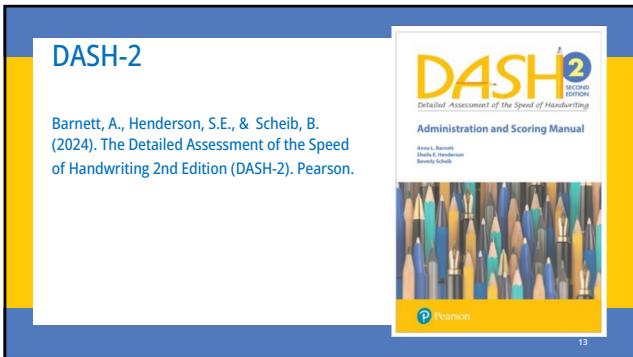
The image shows two book covers side-by-side. The left book is titled 'Dash' and the right book is titled 'Dash 17+'. Both covers feature a blue and green color scheme with a pencil icon. The 'Dash' cover includes the text 'Detailed Assessment of Speed of Handwriting (DASH) Manual' and the 'Dash 17+' cover includes 'Detailed Assessment of Speed of Handwriting' and 'Manual'.

- Used extensively in the UK and other countries
- In the UK used by range of professionals in health and education.

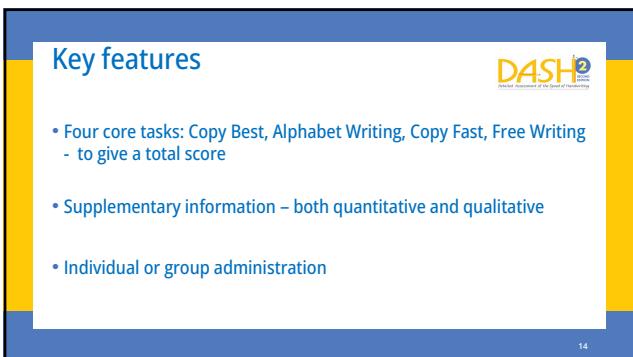
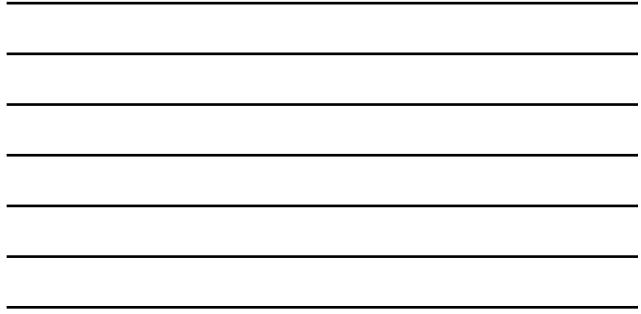
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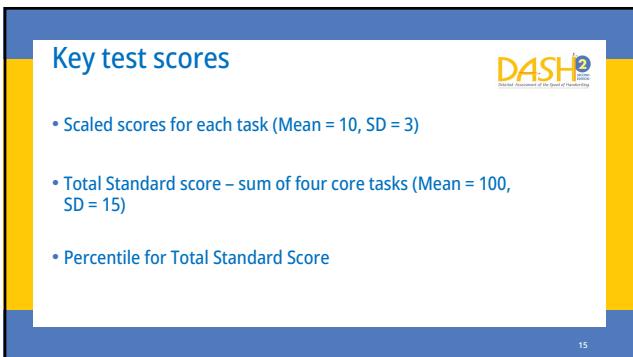
# **Detailed Assessment of Speed of Handwriting - Second Edition**



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# Detailed Assessment of Speed of Handwriting - Second Edition

## DASH-2 development



- Professional body recommendations
- Expert panel
- User feedback
- Extensive pilot work
- Standardisation project to collect new norms

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## New features



- Age range extended to cover 8;0 to 25;11 years in single version
- New sentences for copying for younger (8-16 years) and older (17-25 years) age groups
- Alternate copying tasks (e.g. for repeat testing)
- Alternative Free Writing topic in addition to the original, 'My Life'
- Updated instructions and prompts
- Extended scoring examples

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## Standardisation project



See on the screen:  
Table of numbers  
per age group

- Aug 2021-Feb 2023
- Total = 762 (UK 368, Australia/NZ 394)
- Stratification variables from census data
  - Parent/caregiver educational level
  - Ethnicity/ancestry
  - Geographic region

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# **Detailed Assessment of Speed of Handwriting - Second Edition**

## Results

- No country effects of practical significance
- No effects of stratification variables that required modification of norms.

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## Results

- Significant increases in handwriting speed across the age range for all tasks
- Rate of change decreases with age.

**See on the screen:  
Graphs from  
pages 115-116 in  
DASH-2 Manual**

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## Plan

- Introduction – aim, uses, key features
- Development - new features
- Materials, planning and preparation
- Administration of tasks
- Scoring and interpretation
- Psychometric properties

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# **Detailed Assessment of Speed of Handwriting - Second Edition**

## Materials supplied in the kit

- Administration and Scoring Manual
- Pack of Record Forms
- Reproducible Cards:
  - Sentence Copying Cards – A1, A2, A3, A4
  - Graphic Speed Card
  - Free Writing Topic Cards – B1, B2
  - Lined Paper Card



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## Materials supplied in the kit

**See on the screen  
Examples of items  
included in the  
DASH-2 kit**

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## Other materials required

- Examiner:
- For your own use: timer, pen and paper for notations
- For examinee use: spare lined paper, spare pens/pencils

- Examinee: usual writing implement (pencil or pen)



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# Detailed Assessment of Speed of Handwriting - Second Edition

## Planning and preparation



- Become completely familiar with the materials, tasks and instructions
- Calculate examinee's chronological age and enter on the Record Form
- Photocopy: Lined Writing Card, Graphic Speed Card and appropriate Sentence Copying and Free Writing Topic card
- Arrange the seating space: Individual or group
- Allow at least 30 minutes

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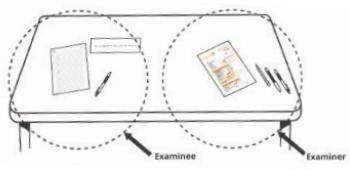
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## Set-up for 1:1 testing



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## Considerations for group testing



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# Detailed Assessment of Speed of Handwriting - Second Edition

## Order of testing



- The five DASH-2 tasks should be administered in this order, as arranged in the manual:
  - Copy Best
  - Alphabet Writing
  - Copy Fast
  - Graphic Speed
  - Free Writing

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## Points relevant to all tasks



- Examinee: should use their usual writing implement
- Examiner: should have timer, pen and paper for notations, and materials for administration & demonstrations
- Materials: stapled sheets of lined paper, photocopies as appropriate per task e.g. Sentence for Copying
- Careful administration: verbatim instructions, demonstrations, timing
- Prompts
- Recording observations & comments

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## Core task 1: Copy Best

Name: _____	R/L: _____
Handwriting practice lines	

- Materials: new sheet of lined paper, relevant sentence copying strip, timer, pen/pencil
- Task: copy sentence in best handwriting continuously for 2 minutes
- Demonstration: mark (//) after 1 minute
- Prompts
- Points for group testing

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# Detailed Assessment of Speed of Handwriting - Second Edition

Copy Best writing

See writing sample on the screen

DASH<sup>®</sup>  
Detailed Assessment of the Speed of Handwriting

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Copy Best: Scoring I

See writing sample on the screen

DASH<sup>®</sup>  
Detailed Assessment of the Speed of Handwriting

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- Include:
  - All legible words (out of context)
  - All incorrectly copied words
  - Legible crossings out
  - Unfinished words: 2 letters+
  - Repeated words
  - Misspelt words

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Copy Best: Scoring II

See writing sample on the screen

DASH<sup>®</sup>  
Detailed Assessment of the Speed of Handwriting

33

- Do not include:
  - Totally illegible words
  - Final word if not complete
  - Punctuation marks

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# **Detailed Assessment of Speed of Handwriting - Second Edition**

## Core task 2: Alphabet Writing

- Materials: new sheet of lined paper, timer, pen/pencil
- Task: write alphabet: in correct sequence continuously for 1 minute using lower case, un-joined letters
- Demonstrations
- Prompts
- Points for group testing



a b c d e f g h i j k l m n o
p q r s t u v w x y z a b c
d f g h i j k l m n o p q r
s t u v w x y z a b c d e f
g h i j k l m n o p q r s t
u v w x y z a b c d e f g h i

a b c d e f g h i j k l m n o p q r s t
u v w x y z a b c d e f g h i j k l m n o p q r s t
u v w x y z a b c d e f g h i j k l m n o p q r s t

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# Alphabet Writing Scoring II

DASH<sup>2</sup>  
Selected Assessment of the Speed of Handwriting

- Do not include:
- Letters that cannot be recognized out of context
- Letters that are out of order

a b c d e f g h i j k l m n o p q r s t u v w
x z
o c k

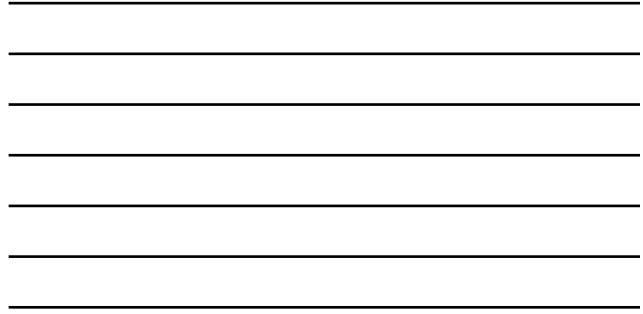
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# **Detailed Assessment of Speed of Handwriting - Second Edition**

## Core task 3: Copy Fast

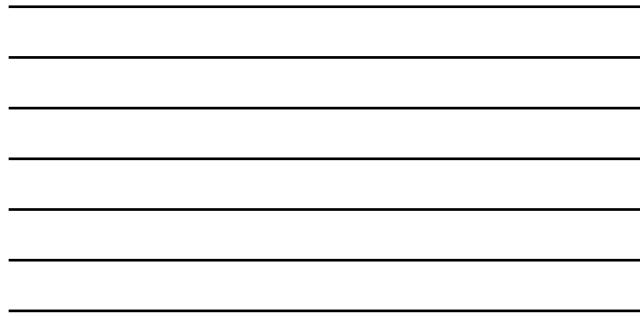
- Materials: new sheet of lined paper, same sentence strip as in Copy Best, timer, pen/pencil
- Task: copy sentence quickly and legibly - as if writing an exam, continuously for 2 minutes
- Demonstration
- Prompts
- Points for group testing

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	<p style="text-align: center;"><b>Handout 2</b></p>	
		 <b>DASH<sup>2</sup></b> Selected Assessment of the Speed of Handwriting
<p><b>Scoring the copying tasks.</b></p> <p><b>Copy Best</b></p> <p><u>The boy quickly jumped over a stone bridge.</u>  <u>twice on the space the boy quickly jumped</u>  <u>over</u></p> <p><b>Copy Fast</b></p> <p><u>The boy quickly jumped over a stone</u>  <u>bridge</u>  <u>twice on the space the boy quickly jumped</u>  <u>over a stone bridge</u></p>		
<p><b>Some scoring rules:</b></p> <ul style="list-style-type: none"> <li>• If there is an uneven number of letters on each side of the time mark, count a whole word on the side with the most letters, do not count those on the other side of the time mark.</li> <li>• Exclude the final word if it is not completed.</li> </ul>		

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DASH<sup>2</sup>  
Selected Assessment of the Speed of Handwriting

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# **Detailed Assessment of Speed of Handwriting - Second Edition**

## Supplementary task: Graphic Speed

DASH<sup>2</sup>  
Detailed Assessment of the Speed of Handwriting

- Materials: Graphic Speed sheet, timer, pen/pencil
- Task: draw Xs in circles following certain rules for 1 minute
- Demonstrations
- Prompts
- Points for group testing



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## Supplementary task: Graphic Speed

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# Graphic Speed: Scoring I

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# Detailed Assessment of Speed of Handwriting - Second Edition

## Core task 4: Free Writing



- Materials: new sheet of lined paper, relevant topic spider diagram, timer, pen/pencil
- Task: write about the main topic in everyday writing for 10 minutes
- Discussion: sub-topics can be used to help with ideas
- Thinking and preparation time
- Demonstration
- Prompts

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## Spider diagrams



See on the screen:  
Free Writing Topic Cards

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## Free Writing: Scoring Rules



### Count:

- All Legible Words – untidy, crossed out, misspelled, slang, made up words, unfinished (2+ letters)
- Totally illegible words - words that cannot be read in context (should be bracketed and recorded as an illegible word)

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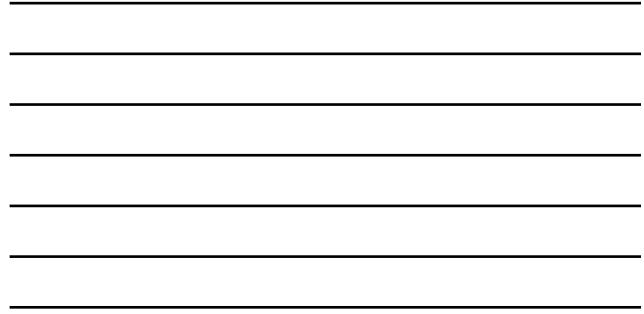
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# **Detailed Assessment of Speed of Handwriting - Second Edition**

# Free Writing: Scoring I

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## Examples of Free Writing

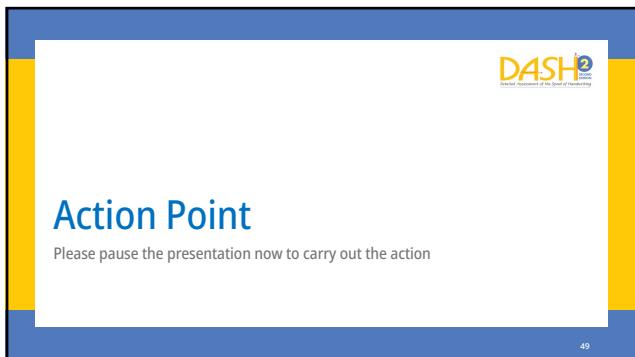
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# Detailed Assessment of Speed of Handwriting - Second Edition



**Action Point**  
Please pause the presentation now to carry out the action

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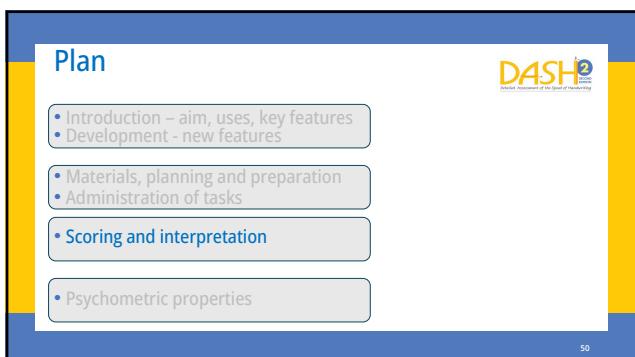
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**Plan**

- Introduction – aim, uses, key features
- Development - new features
- Materials, planning and preparation
- Administration of tasks
- **Scoring and interpretation**
- Psychometric properties

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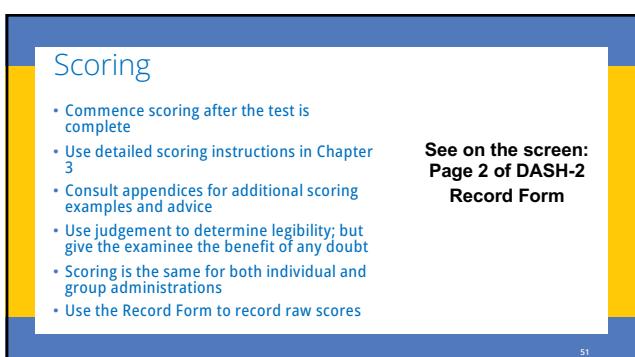
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**Scoring**

- Commence scoring after the test is complete
- Use detailed scoring instructions in Chapter 3
- Consult appendices for additional scoring examples and advice
- Use judgement to determine legibility; but give the examinee the benefit of any doubt
- Scoring is the same for both individual and group administrations
- Use the Record Form to record raw scores

**See on the screen:**  
**Page 2 of DASH-2 Record Form**

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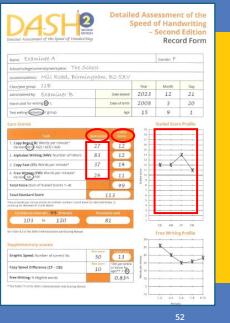
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# Detailed Assessment of Speed of Handwriting - Second Edition

## Front of Record Form

- Transfer information to front of Record Form
- Raw scores from core tasks and supplementary information
- Use Appendix B to obtain the scaled scores for each task (Table B.1)
- Scaled scores for each task (Mean = 10, SD = 3) - profile
- Sum of scaled scores: from four core tasks



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## Normative data

Scaled score	Copy Block	Copy Block A10	Copy Block B	Copy Block C	Free Writing	Free Writing A10	Free Writing B	Free Writing C	Graphic Board	Graphic Board A10	Graphic Board B	Graphic Board C	Scaled score
1									1				
2									2				
3									3				
4									4				
5									5				
6									6				
7									7				
8									8				
9									9				
10									10				

Scaled score	Copy Block	Copy Block A10	Copy Block B	Copy Block C	Free Writing	Free Writing A10	Free Writing B	Free Writing C	Graphic Board	Graphic Board A10	Graphic Board B	Graphic Board C	Scaled score
1									1				
2									2				
3									3				
4									4				
5									5				
6									6				
7									7				
8									8				
9									9				
10									10				

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## Total Standard score

- Sum of scaled scores: from four core tasks
- Appendix B, Table B.2
- Total Standard score (Mean = 100, SD = 15)
- Percentile rank for Total Standard Score

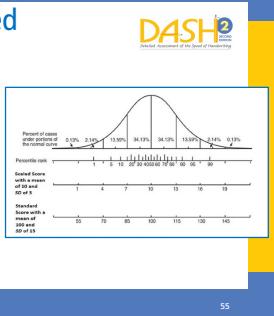
Sum of scaled scores	Total standard score	Percentile rank	Confidence Interval
4		48%	
5		50%	
6		52%	
7		54%	
8		56%	
9		58%	
10		60%	

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# **Detailed Assessment of Speed of Handwriting - Second Edition**

## Describing scores obtained

- At or below 5th percentile  
(i.e. standard score 76 or below). Slow handwriting, deserves attention
- 6th to 15th percentile  
(i.e. standard score 77 to 83). Moderately slow handwriting, may require further assessment, monitoring, intervention
- At or above 16th percentile  
(i.e. standard score 85+). No difficulty with handwriting speed



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## Handout 4

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## Action Point

Please pause the presentation to find and read Handout 4

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# Detailed Assessment of Speed of Handwriting - Second Edition

## Supplementary scores

- Graphic Speed: Scaled Score
- Copying: Copy Speed Difference score (cut-off points shown in Table 7.9)
- Free Writing:
  - Percentage of illegible words
  - Words per minute (WPM) profile

**DASH**  
Detailed Assessment of the Speed of Handwriting  
Second Edition  
Record Form

**Free Writing**

**Supplementary scores**

**Copy Speed Difference (CSD)**

**Free Writing Profile**

**Free Writing Results**

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## Example: Free Writing

**Free Writing**

**Copy Speed**

**Supplementary scores**

**Free Writing Results**

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## Free writing task

- Opportunity to observe the writing process.
  - 4 P's – posture, pen grip, paper position, pressure
- Opportunity to observe the writing product.
  - 7 S's – shape, size, spacing, slant/slope, sitting on line, stringing together, shakiness
- Further measures:
  - Legibility - Handwriting Legibility Scale (HLS; Barnett, Rosenblum & Prunty, 2018)
  - Content of writing/compositional quality - Writing Quality Scale (WQS; Stuart & Barnett, 2023; 2024).

**DASH**  
Detailed Assessment of the Speed of Handwriting  
Second Edition  
Record Form

**\* See  
Handout 5**

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# Detailed Assessment of Speed of Handwriting - Second Edition

## Getting more out of DASH-2

- Qualitative information – back page of Record Form
- Process – 4 Ps
- Product – 7 Ss
- Overall legibility (within and between tasks)
- Relationship between speed and legibility
- Free Writing content

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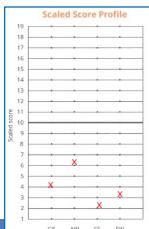
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## Case study, 13 years



Task	Scaled Score
Copy Best	4
Alphabet Writing	6
Copy Fast	2
Graphic Speed	5
Free Writing	3

Total SS: 65  
Percentile rank: 1  
95% CI: 60-78  
Copy speed diff: 1.5 wpm  
FW % illegible words: 0

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## Case study – writing samples



Copy Best

See writing samples  
on the screen

Free Writing  
(10 minutes)

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# **Detailed Assessment of Speed of Handwriting - Second Edition**

## DASH-2 in context

- Handwriting process and product
- Background about the individual
- Background about the individual's environment



The diagram illustrates the DASH-2 process as a circular cycle. It features a central light gray circle with three thick, dark blue arrows forming a triangle around it, pointing clockwise. The arrow on the left is labeled 'The individual' at its base. The arrow on the right is labeled 'The environment' at its base. At the top of the cycle, above the top arrow, is a light gray triangle pointing upwards, with the text 'The handwriting process and product' written inside it.

**DASH<sup>2</sup>**  
Second edition  
Detailed Assessment of the Handwriting

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# Plan

- Introduction – aim, uses, key features
- Development - new features
- Materials, planning and preparation
- Administration of tasks
- Scoring and interpretation
- Psychometric properties

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## Psychometric properties of DASH-2

- A continuous process
- Selected examples

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# Detailed Assessment of Speed of Handwriting - Second Edition

## Reliability



- Reliability data summarised in Chapter 7 of the manual
- Inter-rater (n=140) ICC = .99 for Total SS
- Test-retest (n=130), corrected  $r = .89$  for Total SS
- The measures of reliability satisfy the required standards for reliability

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## Confidence intervals (CIs)



- CIs should be used when reporting test results
- Two methods used in DASH-2:
- Standard Error of Measurement (SEM)
  - An estimate of the amount of error in an examinee's observed score
  - 4.98 for Total SS (average across ages)
- Standard Error of Estimation (SEE)
  - An estimate of the amount of error in an examinee's estimated true score
  - Total SS ranges reported for 68%, 90% and 95% confidence level

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## Reporting Confidence intervals



- An examinee obtains an observed Total Standard Score of 96
- An example using the 95% confidence level
- Method using SEM and observed score
  - From Table 7.15, the average SEM is 4.98
  - The 95% CI is calculated as  $96 \pm 1.96 \text{ SEM}$  ( $1.96 \times 4.98 = 9.8$ )
  - 86 -106
- Method using SEE and estimated true score
  - From Table B.2
  - 88-105

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# **Detailed Assessment of Speed of Handwriting - Second Edition**

## Validity



- A range of information supports the validity of DASH-2
- Intercorrelations between the tasks
- Factor analysis
- Group differences

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## Score inter-correlations: all ages

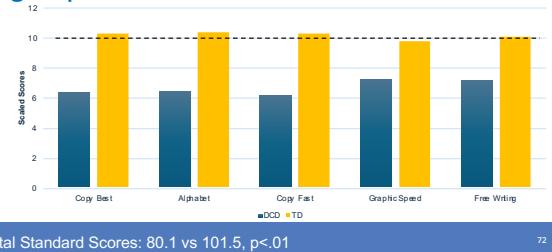


	Copy Best	Copy Fast	Alphabet Writing	Free Writing	Graphic Speed	Total*
Copy Best	-	-	-	-	-	.74
Copy Fast	.77	-	-	-	-	.83
Alphabet Writing	.56	.59	-	-	-	.63
Free Writing	.60	.72	.52	-	-	.70
Graphic Speed	.29	.36	.34	.33	-	-

\* Correlation between a task and the Total calculated without this task

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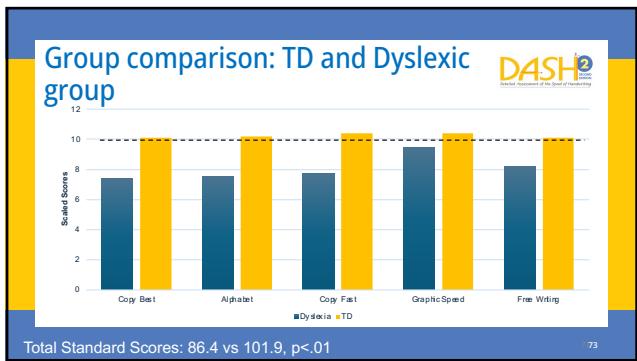
## Group comparison: TD and DCD group



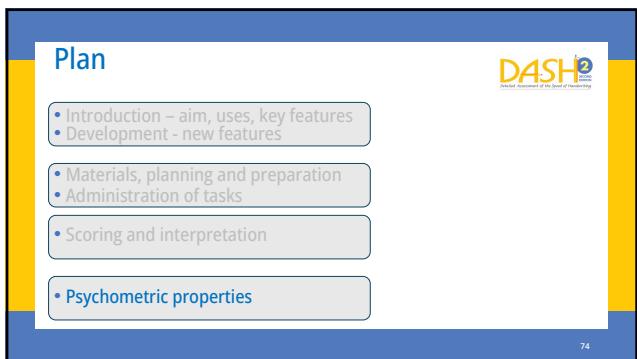
Total Standard Scores: 80.1 vs 101.5,  $p < .01$

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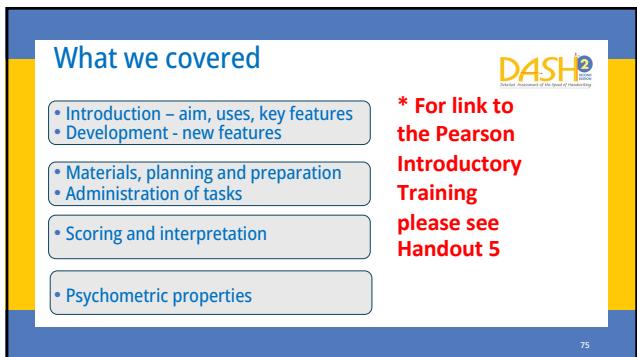
# **Detailed Assessment of Speed of Handwriting - Second Edition**



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# **Detailed Assessment of Speed of Handwriting - Second Edition**

## Acknowledgements

## Colleagues

- Expert panel
- Pearson Clinical team

## Funders



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Thank you for listening!

## Further information:

[www.pearsonclinical.co.uk](http://www.pearsonclinical.co.uk)  
[www.annabarnett.co.uk](http://www.annabarnett.co.uk)

Email: abarnett@brookes.ac.uk

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## Handout 1

You have heard about the range of uses of DASH-2. Note below how YOU would use the test in your own practice setting e.g. testing an individual examinee or a group and the purpose of using the test.

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## Scoring the copying tasks.

## Copy Best

The fox quickly jumped over a dizzy brown mouse on the grass. The fox quickly jumped over

## Copy Fast

The fox quickly jumped over a dizzy brown mouse on the grass. The fox quickly jumped over a dizzy brown mouse on the grass.

## Some scoring rules:

- If there is an uneven number of letters on each side of the time mark, count a whole word on the side with the most letters, do not count those on the other side of the time mark.
- Exclude the final word if it is not completed.
- 

Task	Minute 1	Minute 2	Total	Wpm score (total/2)	
Copy Best					Box A
Copy Fast					Box B

Task	wpm
Copy Fast wpm (from box B above)	
	MINUS
Copy Best wpm (from box A above)	
	EQUALS
Copy Speed Difference	

Note below any uncertainties you had about scoring the copying tasks:

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## Scoring the Free Writing task.

## My Life script from a 14 year-old student.

## My life

my birthday IS the first of december. I dont  
 fically like having a birthday close to christmas  
 because once i get my birthday presents i dont have  
 any thing to get for christmas. when im older i hope  
 i become a nurse. This has been my dream job  
 ever since ~~10~~ was little. I always loved to  
 look after my grandad when he got ill. I love getting  
 dressed up on the weekend and going out. Normally  
 one of my friends is having a mini girls night and  
 we all go to their house and gossip ~~11~~ My dog  
 Luna is very naughty. She is always running of  
 with my shoes and barking at all the cars  
 the drive onto my street. when im older i would  
 love to live in a big house but in a quite  
 area. Also i want to live near a big city  
 So it's ~~easy~~ to go shopping. I want a pool  
 in my backgarden but also a hot tub  
 so when it's cold out i can just go in there.  
 when i was younger i did all the sports  
 and was the best at them i was always ~~11~~  
 very competitive and hated losing. Everyone always  
 wanted to be on my team because they  
 knew i would win. My favourite holiday i have  
 been on is Turkey i loved the heat and how  
 i came back

## Some scoring rules:

- Read the whole script first to check for legibility. If there are any words that are totally illegible, draw brackets around them to indicate that they should be counted separately later.
- Do not include the words written in the title.
- Contractions (e.g. don't) are counted as two words. A contraction without the apostrophe (e.g. dont) is also counted as two words.
- If there is an uneven number of letters on each side of the time mark, count a whole word on the side with the most letters, do not count those on the other side of the time mark.

Time	Number of words	Wpm (number of words/2)
1-2 minutes		
3-4 minutes		
5-6 minutes		
7-8 minutes		
9-10 minutes		
		<b>Total wpm (Total number of words/10)</b>
<b>Total</b>		
<b>Number of illegible words</b>		

**Note below any uncertainties you had about scoring the Free Writing task:**

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**Note below any observations you have about the handwriting:**

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## Detailed Assessment of Speed of Handwriting Second Edition (DASH 2)

### Suggestions for use with Assessments for JCQ Exam Access Arrangements;

- Where a candidate writes independently, a standard score in the below average (scaled score below 7, converted to a standard score for Form 8) or low average (scaled score 7, converted to a standard score for Form 8) ranges for the **Free Writing** subtest could be used as core evidence in a request for extra time. The score would be recorded as a measure of writing speed in Part 2 of Form 8.
- Where a candidate writes independently, a standard score in the below average (below 85) or low average (85 to 89) ranges for composite **Handwriting Speed** (comprising the four core subtests) could be used as one of the two scores providing core evidence in a request for extra time. The score would be recorded as a measure of writing speed in Part 2 of Form 8.
- A comparison between **Copy Fast** and **Copy Best** may be used to demonstrate that a candidate who tends to write illegibly when under time pressure, can write legibly if they are allowed extra time. This could be used as *supplementary evidence* for extra time.
- A standard score in the below average range (scaled score below 7, converted as a standard score for Form 8) for the **Free Writing** subtest could be used as core evidence in a request for a scribe.
- A standard score in the below average range (below 85) for composite **Handwriting Speed** (comprising the four core subtests) could be used as evidence for a Scribe.

Please note;

- The **Copy Best, Alphabet Writing, Copy Fast** and **Graphic Speed** subtest scores cannot be used individually as evidence for a Scribe or 25% extra time.

## References and resources

### 1. Pearson online training for DASH-2:

Go to the 'Complimentary Training' tab on the [DASH-2 Product Page](#)

### 2. References to our related work on handwriting. Some of these can be found here [annabarnett.co.uk](http://annabarnett.co.uk) (go to the 'Resources' tab)

#### (i) General:

Barnett, A.L. & Prunty, M. (2020). Handwriting difficulties in Developmental Coordination Disorder (DCD). *Current Developmental Disorders Reports*, 8, 6-14. ISSN: 2196-2987 eISSN: 2196-2987.

Stuart, N.J. & Barnett, A.L. (2023). Assessing writing skills in Higher Education: speed, legibility, and quality. *Patoss Bulletin*, 36, 68-81. ISSN: 1476-1521.

#### (ii) Handwriting Legibility Scale:

*This tool was originally developed for ages 9-14 years but has also been found to be applicable for use with older students, aged 15-16 years and aged 17-25 years. You can download the scale here: <https://annabarnett.co.uk/resources>*

Barnett, A.L., Prunty, M. & Rosenblum, R. (2018). Development of the Handwriting Legibility Scale (HLS): a preliminary examination of Reliability and Validity. *Research in Developmental Disabilities*, 72, 240-247. ISSN: 0891-4222 eISSN: 1873-3379.

Fogel, Y., Rosenblum, S. & Barnett, A.L. (2023). Handwriting legibility across different writing tasks in school-aged children. *Hong Kong Journal of Occupational Therapy* 35 (1), 44-51. ISSN: 1569-1861 eISSN: 1876-4398.

Stuart, N., Zoia, S., Biancotto, M. & Barnett, A.L. (2024). The Handwriting Legibility Scale (HLS): a language and age extension for students with and without Specific Learning Difficulties. *Journal of Motor Learning and Development*. ISSN: 2325-3193 eISSN: 2325-3215.

#### (iii) Writing Quality Scale:

*This tool has been developed for use with students in higher education, aged 17-25 years. A scoring guide is now available.*

Stuart, N.J. & Barnett, A.L. (2023). The Writing Quality Scale (WQS): A new tool to identify writing difficulties in students. *British Journal of Special Education* 50 (2), 258-267. ISSN: 0952-3383 eISSN: 1467-8578.

Stuart, N.J. & Barnett, A.L. (2024). *Writing quality scale (WQS): HE version. Administration and scoring guide*. Oxford, England: Oxford Brookes University.

<https://radar.brookes.ac.uk/radar/items/8aa3a10e-6f79-42a2-92e5-2d47792fa490/1/>