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

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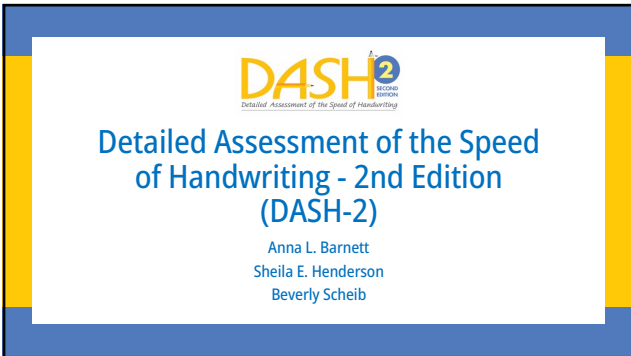
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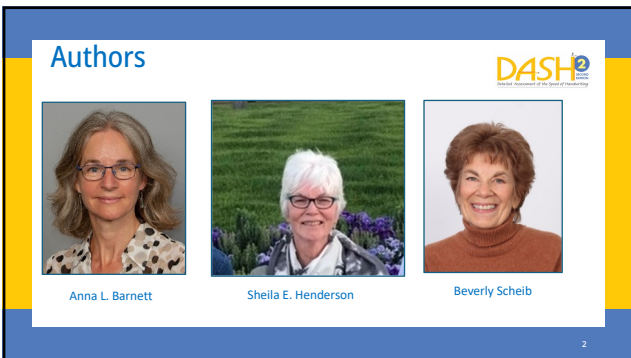
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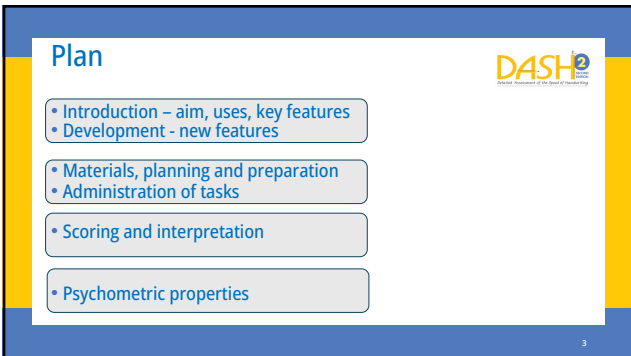
Detailed Assessment of Speed of Handwriting - Second Edition



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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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Aim of DASH-2

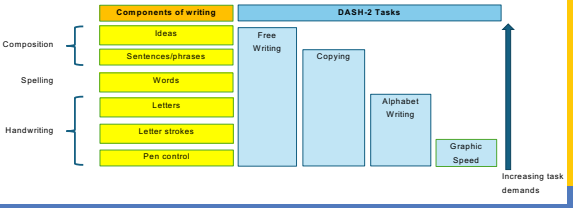


- To provide a reliable measure of the speed of handwriting, while taking account of legibility
- Includes a range of functional handwriting tasks
- Provides quantitative and qualitative information

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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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Handout 1

Handout 1. You have been asked about the range of uses of DASH 2. Handout 1 has 100 words on the sheet to use for practice writing e.g. holding an individual encounter or a group and for the purpose of using the text.

Handout 1
Handouts can be found in your course materials (after the Power Point slides)

DASH 2
Detailed Assessment of Speed of Handwriting

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Action Point

Please pause the presentation now to carry out the action

DASH 2
Detailed Assessment of Speed of Handwriting

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Previous versions

DASH 2
Detailed Assessment of Speed of Handwriting

Dash
Detailed Assessment of Speed of Handwriting (DASH)

Dash 17+
Detailed Assessment of Speed of Handwriting

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

Barnett, A., Henderson, S.E., Scheib, B. & Schulz, J. (2007). *The Detailed Assessment of Speed of Handwriting (DASH)*. Pearson.

Barnett, A., Henderson, S.E., Scheib, B. & Schulz, J. (2010). *The Detailed Assessment of Speed of Handwriting 17+ (DASH 17+)*.

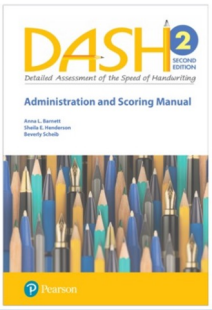
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DASH-2

Barnett, A., Henderson, S.E., & Scheib, B. (2024). The Detailed Assessment of the Speed of Handwriting 2nd Edition (DASH-2). Pearson.




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Key features

- Four core tasks: Copy Best, Alphabet Writing, Copy Fast, Free Writing - to give a total score
- Supplementary information – both quantitative and qualitative
- Individual or group administration




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Key test scores

- Scaled scores for each task (Mean = 10, SD = 3)
- Total Standard score – sum of four core tasks (Mean = 100, SD = 15)
- Percentile for Total Standard Score




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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

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

**See on the screen:
Table of numbers
per age group**



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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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Detailed Assessment of Speed of 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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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

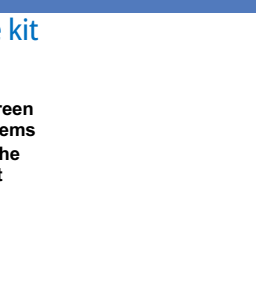


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Materials supplied in the kit

**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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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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Set-up for 1:1 testing

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Considerations for group testing

- Refer to additional instructions for group administration
- Ensure room layout provides ample room between examinees
- Ensure examinees can & do view demonstrations
- Circulate and check all are following and understanding instructions
- Use an assistant if appropriate


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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



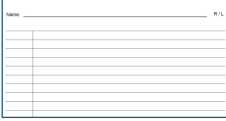
- Examinee: should use their usual writing implement
- Examiner: should have timer, pen and paper for notations, and materials for administration & demonstrations
- Materials: stapled sheets of lined paper, photocopies as appropriate per task e.g. Sentence for Copying
- Careful administration: verbatim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

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Core task 1: Copy Best

- 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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Copy Best writing

See writing sample on the screen




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Copy Best: Scoring I

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

See writing sample on the screen




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Copy Best: Scoring II

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

See writing sample on the screen



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Core task 3: Copy Fast

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- 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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Handout 2

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Detailed Assessment of Speed of Handwriting

Scoring the copying tasks.

Copy Best

The sea quickly jumped over a dusty brown
prairie on the grass. The sea quickly jumped
over.

Copy Fast

The sea quickly jumped over a dusty
brown prairie on the grass. The sea
quickly jumped over a dusty brown
prairie 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.

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Action Point


Please pause the presentation now to carry out the action

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Supplementary task: Graphic Speed 

- 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 

**See on the screen:
Graphic Speed Card**


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Graphic Speed: Scoring I 

Some examples of errors:

- Single lines and lines that do not cross
- Lines that intersect outside the inner circle
- Lines that do not extend to the inner circle



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Core task 4: Free Writing

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- 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

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**See on the screen:
Free Writing Topic Cards**

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Free Writing: Scoring Rules

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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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Free Writing: Scoring I

Include:

- Legible crossed out words
- Misspelt words
- Unfinished words: 2 letters+
- Numbers as one word
- Abbreviations
- Contractions as two words

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Examples of Free Writing

See writing samples on the screen (The first sample is on Handout 3)

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Handout 3

Handout 3

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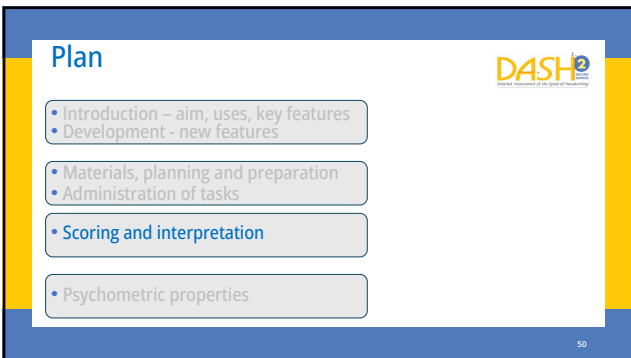
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A presentation slide with a blue header and footer and yellow sidebars. The title 'Action Point' is in blue. Below it, the text reads 'Please pause the presentation now to carry out the action'. The DASH 2 logo is in the top right corner, and the number '49' is in the bottom right corner.

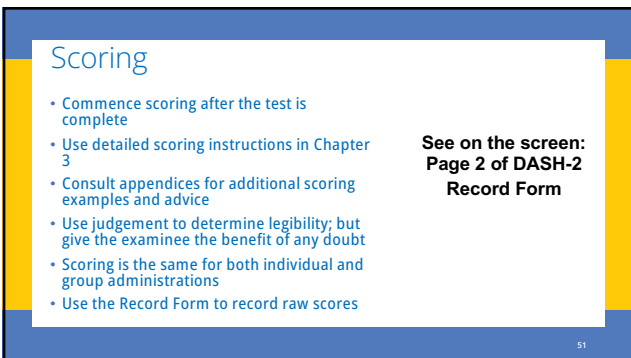
49



A presentation slide with a blue header and footer and yellow sidebars. The title 'Plan' is in blue. The content is organized into four rounded rectangular boxes, each containing a list of bullet points. The DASH 2 logo is in the top right corner, and the number '50' is in the bottom right corner.

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

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A presentation slide with a blue header and footer and yellow sidebars. The title 'Scoring' is in blue. On the left, there is a list of bullet points. On the right, there is a text box with the following text: 'See on the screen: Page 2 of DASH-2 Record Form'. The DASH 2 logo is in the top right corner, and the number '51' is in the bottom right corner.

- 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

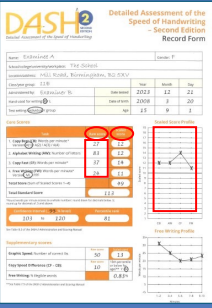
**See on the screen:
Page 2 of DASH-2
Record Form**

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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

Table B.1. Scaled score normative data: ages 8;0-10;11

Scaled Score	Copy task (ages 8;0-10;11)	Copy task (ages 10;0-10;11)	Copy task (ages 10;0-10;11)	Copy task (ages 10;0-10;11)	Copy task (ages 10;0-10;11)	Copy task (ages 10;0-10;11)	Copy task (ages 10;0-10;11)	Copy task (ages 10;0-10;11)	Copy task (ages 10;0-10;11)
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									

Table B.2. Scaled score normative data: ages 11;0-14;11

Scaled Score	Copy task (ages 11;0-14;11)	Copy task (ages 11;0-14;11)	Copy task (ages 11;0-14;11)	Copy task (ages 11;0-14;11)	Copy task (ages 11;0-14;11)	Copy task (ages 11;0-14;11)	Copy task (ages 11;0-14;11)	Copy task (ages 11;0-14;11)	Copy task (ages 11;0-14;11)
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									

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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

Table B.2. Total standard scores and percentile ranks

Sum of scaled scores	Total standard score	Percentile rank	Confidence interval		
			68%	90%	95%
4					
5					
6					
7					
8					
9					
10					

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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

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

Handout 4

Supporters for use with Assessments for ICD 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 B) or low average (scaled score 7, converted to a standard score for Form B) range 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 B.
- Where a candidate writes independently, a standard score in the below average (below 85 or low average 86 to 89) range for composite **Handwriting Speed** comprising the four core subtests could be used as one of the best 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 B.
- A comparison between **Copy Fast** and **Copy Best** may be used to demonstrate that a candidate who tends to write **fligglily** 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 B) 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.

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Action Point

Please pause the presentation to find and read Handout 4

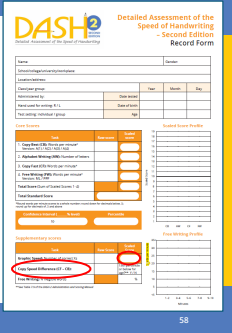
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Supplementary scores

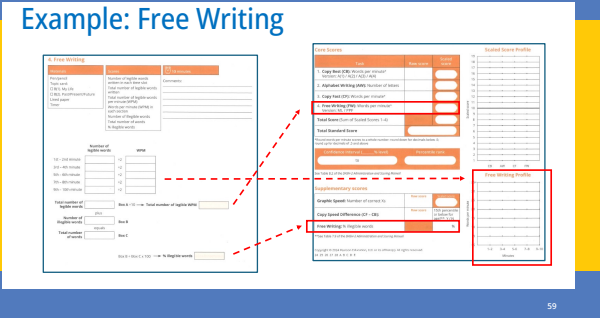
- Graphic Speed: Scaled Score
- Copying: Copy Speed Difference score (cut off points shown in Table 7.9)
- Free Writing:
 - Percentage of illegible words
 - Words per minute (WPM) profile



The screenshot shows the 'Supplementary Scores Profile' section of the DASH form. It includes sub-sections for 'Graphic Speed' and 'Free Writing'. The 'Free Writing' section has a 'Percentage of Illegible Words' field and a 'Words per Minute (WPM) Profile' table. Red circles highlight the 'Percentage of Illegible Words' field and the 'Words per Minute (WPM) Profile' table.

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Example: Free Writing




The screenshot shows an example of the 'Free Writing' task. It includes a 'Free Writing' section with a 'Number of Legible Words' field and a 'Percentage of Illegible Words' field. A red dashed line connects the 'Percentage of Illegible Words' field to the 'Percentage of Illegible Words' field in the 'Supplementary Scores Profile' section. The 'Supplementary Scores Profile' section also has a 'Words per Minute (WPM) Profile' table. Red boxes highlight the 'Percentage of Illegible Words' field and the 'Words per Minute (WPM) Profile' table.

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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).

*** See Handout 5**



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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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Case study, 13 years

Scaled Score Profile

Free Writing Profile

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

Free Writing (10 minutes)

See writing samples on the screen

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DASH-2 in context

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

The diagram consists of a central circle with three arrows forming a clockwise cycle. The top arrow points to 'The handwriting process and product'. The bottom-left arrow points to 'The individual'. The bottom-right arrow points to 'The environment'. The DASH-2 logo is in the top right corner.

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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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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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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

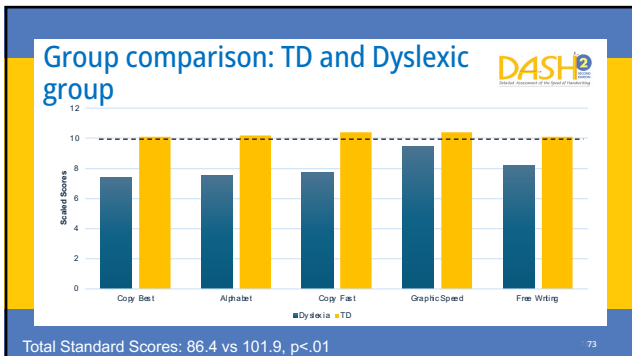
Total Standard Scores: 80.1 vs 101.5, $p < .01$

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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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What we covered

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

*** For link to the Pearson Introductory Training please see Handout 5**

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Acknowledgements

Colleagues	Funders
<ul style="list-style-type: none">• Expert panel• Pearson Clinical team	 

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Thank you for listening!

Further information:
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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.

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:

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 really 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 ~~i~~ 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 ~~i~~ My dog Luna is very naughty she is always running off 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 ~~y~~ 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 ~~i~~ 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		
		Total wpm (Total number of words/10)
Total		
Number of illegible words		

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

Note below any observations you have about the handwriting:

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 (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/>