

# A review of the Detailed Assessment of Speed of Handwriting, Second Edition (DASH-2)

*By Virginia Wise Berninger, Professor Emerita, University of Washington*



The second edition of the Detailed Assessment of the Speed of Handwriting (DASH-2) handwriting assessment tool fits well with research showing the importance of handwriting speed in the elementary grades (e.g., Berninger, 2009), the middle school and high school grades (e.g., Alstad, Sanders, Abbott, Barnett, Henderson, Connelly, & Berninger, 2015), the college years (e.g., Peverly, Vekaria, Reddington, Sumowski, Johnson, & Ramsay, 2013), and adult work world beyond college (e.g., Peverly, 2006). Importantly, DASH-2 assesses the speed of *legible* handwriting. The DASH-2 (Barnett, Henderson, and Scheib, 2024) has norms for ages 8 to 25+ and is an update of the first edition of DASH, which had norms for ages 9 to 16, and DASH 17+, which had norms for 17 to 25.

As in the original DASH, there are five subtests: Copy Best, Alphabet Writing, Copy Fast, Graphic Speed, and Free Writing. These subtests have been normed in Australia, New Zealand, and the United Kingdom on samples of English-speaking children, youth, and adults. Based on prior research in which the Copy Best and Copy Fast measures were used in a study in the United States (see Study 2 in Alstad et al., 2015), these measures should be valid in the United States as well.

## Uses for DASH-2

DASH-2 can be used to assess the speed of legible handwriting on various written tasks, ranging from writing ordered letters in the alphabet, to writing words in a sentence, to composing text. The Alphabet Writing task requires writing legible, lowercase letters in alphabetic order from memory continuously for 1 minute. In contrast to the Alphabet task, the sentence copy tasks require copying letters in words and words in sentences from a model sentence, which contains all the letters of the alphabet. The same sentence is used for Copy Best and Copy Fast. Both tasks require copying the same sentence repeatedly for 2 minutes, but in one's best handwriting for the Copy Best Task and in one's fast but legible handwriting for the Copy Fast Task.

A new feature in DASH-2 is that at each of two age groups (8 to 16 or 17 to 25) there are two alternative sentences; the examiner selects one of these for the individual/s' age group and then uses that same sentence for both the Copy Best and Copy Fast tasks. For Free Writing, the task is to compose for 10 minutes on one of two topics (My Life or Past/Present/Future), which can be used for all age groups, but the former is considered easier than the latter.

To assist in planning and idea generation for a given topic, individuals are shown a Spider Diagram (graphic display with written suggestions for the kinds of ideas that could be written about in their compositions). One minute is devoted to this planning and then individuals are asked to mark where they are at 2 minutes, 4 minutes, 6 minutes, and 8 minutes and to stop at 10 minutes.

The Graphic Speed subtest is a 1-minute task that assesses perceptual motor speed rather than written language production. The task is to draw Xs in circles on a provided work sheet.

## Scoring the DASH-2

For the copying tasks, individuals are instructed to draw a time mark at end of 1 minute and at end of 2 minutes; thus, speed of copying legible words can be compared for each 1 minute-interval. Scaled scores

can also be computed for the total number of legible words in 2 minutes; and the number of illegible words can be noted. Because the copying tasks are scored the same way and contrast only in their instructions, Copy Best and Copy Fast scaled scores can be compared for self-regulation of handwriting (Copy Best) and speed alone (Copy Fast); a unique contribution of DASH-2.

For the Alphabet Writing task, credit is not given for letters out of alphabetic order or that cannot be recognized out of the alphabet's context.

## What sets DASH-2 apart

Most measures of written composing do not assess handwriting or speed of handwriting during composing, but Free Writing on DASH-2 does. In addition to a scaled score for Free Writing, the percentage of illegible words overall can be computed and a words-per-minute profile across the 10-minute period can be plotted.

The Graphic Speed task is scored for the speed at which an individual can control a writing implement on a non-language task.

## Complementary tools

If motor difficulties are suspected as a contributor to impaired handwriting, an assessment tool that can be used to assess whether an individual has movement difficulties not covered in DASH-2 is the Movement Assessment Battery for Children Third Edition (Movement ABC-3) Checklist (Henderson & Barnett, 2023).

The Manual Dexterity Scale, which includes ratings of drawing, writing, and keyboarding, is especially relevant to the DASH-2, because it offers additional perspectives on an individual's difficulties with writing instruments in everyday life. Research demonstrates that Movement ABC-2 Checklist parent ratings are related to dysgraphia (impaired handwriting), dyslexia (impaired spelling), and Oral and Written Language Learning Disability (OWL LD) impaired sentence composing; Movement ABC-3 Checklist ratings are likely to be related to these writing disabilities as well.

Also, the DASH-2 and Movement ABC-3 can be used to assess individuals with different kinds of handwriting disabilities or differences, for example, dysgraphia (a language-based specific learning disability characterized by impaired legible and automatic letter production related to an impaired orthographic loop for integrating orthographic coding of letter forms with planning and implementing sequential finger movements) (Berninger, 2015; Berninger, Richards, & Abbott, 2015), or dyspraxia (a motor impairment involving fine motor skills but not language skills or orthographic coding) (using DASH-2 Graphic Speed and some items on Movement ABC-3 Checklists).

## References

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## In summary

A wide variety of professionals can administer DASH-2 to support multidisciplinary assessment of handwriting and its relationship to other writing skills and tasks. Overall, DASH-2 is a valuable assessment tool for speed of legible handwriting that is relevant, even in the computer age, to learning to spell, compose, complete written assignments, take notes, study for tests, and perform written tasks at work.