DEVELOPMENTAL COORDINATION DISORDER AUSTRALIA INC.

Handwriting and DCD

Information Sheet for Educators

The Problem with Handwriting

Children with Developmental Coordination Disorder (DCD) have difficulties with motor planning and adjusting motor plans to different situations. Handwriting is therefore a particularly challenging task for children with DCD. It relies on a complex set of fine-motor movements, which change along with varying demands on different days, in different writing contexts, and as children progress through the primary school years (e.g. moving from printing to cursive). Many adults with DCD therefore never "mastered" their handwriting technique during their early years. This can cause problems down the track during exams etc.

What does handwriting look like in a child with DCD?

Some of the common problems we may see in the handwriting of a child with DCD are:

- Slower handwriting – produce less written words within a set time frame [1].
- A speed-accuracy trade-off – when fast writing is required, writing quality drops considerably or when the quality of writing is key, writing speed is very slow.
- Poor organisation of space on the page – this may be both within and between words.
- Difficulty with appropriate letter sizing.
- Difficulty understanding the implicit rules of handwriting, like knowing where to start forming a particular letter.
- A change in the quality of writing when writing context changes – for example, writing on lined paper compared with a more functional task like writing on a greeting card that has no lines.
- Lots of erase marks or words written over again [2].
- Difficulty copying writing from the board.
- Difficulty with other subjects that require handwriting, like math.
- Variability in performance – a child with DCD may write well one day, but the next, be physically or cognitively fatigued, leading to a significant reduction in quality.

How else does poor handwriting impact a child with DCD in the classroom?

- Handwriting tasks are physically and cognitively demanding for a child with DCD – much more so than for a child without it. This can impact their task performance, but also activities that follow a period of handwriting.
- This fatigue may result in poor cooperation or avoidance of activities, which might make you think they are being uncooperative or lazy.
- The fatigue, along with the inability to keep up or do as you ask of them, may make them frustrated and prone to acting out.
- The focus required for them to write may result in them missing other instructions you give and you may think they are deliberately ignoring you.

How can you help a child with poor handwriting skills?

Children with DCD require individualised strategies to help them master handwriting. This is best supported by a paediatric occupational therapist working closely with teachers and parents.

If you have a child in your class that is struggling with handwriting, without a diagnosis of DCD, a handwriting assessment by a paediatric occupational therapist is the best way to determine whether there are any underlying issues, like DCD.

DEVELOPMENTAL COORDINATION DISORDER AUSTRALIA INC.

Classroom strategies for poor handwriting

While every child with DCD is different, there are some general strategies that can be helpful for most.

First, rather than using broad, negative feedback like “this looks messy”, use explicit feedback around the rules of handwriting. For example, “we need to work on leaving correct spaces between words” or “we need to make our letter bodies the same height”. Then use extra visual and tactile cues to help teach these strategies. Some examples are included below:

- Spacing sticks can be used as a reference point to stop margins drifting inward, to help with spacing between words and to align columns in math and words lists.
- Start and stop points provide a child with DCD with explicit rules to follow when copying letters and words, rather than expecting them to understand this implicitly.
- Alternative types of lined paper can also be helpful. For example, paper with coloured or raised lines can provide additional visual or tactile input.
- Graph paper can be useful for lining up math problems.

If you are asking children to copy from the board, you might consider giving a child with handwriting difficulties a hard copy of the information on the board that they can place on their desk to copy from. This is much easier than having to look up at the board and retain the information to transfer to their page.

Some children benefit from writing on a slant board and/or from the use of pencil grips. Pencil grips can come in all different shapes and sizes and their use is best prescribed or monitored by an occupational therapist. The pencil grip or grasp style used does not make a difference to handwriting quality or speed, except when pain resulting from grip style or pressure is an issue.

Pencil grips can help to improve positioning surface area contact/feedback, and thus control, with the pen or pencil. It is unlikely that this alone, however, will make a difference to handwriting quality or speed.

DEVELOPMENTAL COORDINATION DISORDER AUSTRALIA INC.

Accommodations for children with DCD

Sometimes a child with DCD will need accommodations to be made to allow them to perform at their best. The two most important accommodations that can be made for a child with handwriting difficulties are: 1) more time to complete writing tasks and; 2) a reduction in the amount of writing required when it is not the assessable component of the task.

Providing extra time. Making accommodations in this way may seem obvious, but they include providing more time during tests, for homework, and for other in-class activities where the quality of handwriting is important. Providing writing breaks during tests and for lengthy writing activities will also help combat the effects of fatigue.

Reducing writing quantities. When writing itself is not the focus or goal of an activity (e.g. during story production or comprehension), consider alterations to the task that will reduce the physical output for a child with DCD. Some examples include:

- Typing – although it may appear typing would also be difficult for a child with DCD, it is easier for them to master as they keyboard remains stationary and is predictable, unlike their handwriting which they have to constantly monitor in regard to size and spacing [3].
- Dictation – there are a number of different talk-to-text options available for iPads and computers.
- Students work in pairs, where one child is the scribe.
- Ask them to complete every second question on a worksheet rather than all of them (circle the ones you want them to answer).
- Ask them to write just the specific word they are learning to spell, rather than a whole sentence.
- Provide math sheets with the problem already written so that they only have to calculate and record the answer, rather than copy the problem from the board.
- Ask the child to spell words aloud, either to you or to be recorded, rather than writing them.

Try to keep a record of accommodations and strategies that you use for each child, and whether they were successful or not. This information is incredibly useful to pass on to the child's future teachers and will enable a consistent approach throughout their school years.

Summary

- Be explicit, both in instructions and feedback.
- Use visual and tactile aids, wherever possible.
- Make accommodations when necessary and possible.
- Work closely with the child's occupational therapist and family to apply consistent strategies.
- Always remember the cognitive and physical effort handwriting requires for a child with DCD.

Find out more at **dcdaustralia.org.au**

References

[1] Prunty, Mellissa M., et al. "Handwriting speed in children with Developmental Coordination Disorder: Are they really slower?." *Research in developmental disabilities* 34.9 (2013): 2927-2936.

[2] Rosenblum, S., & Livneh-Zirinski, M. (2008). Handwriting process and product characteristics of children diagnosed with developmental coordination disorder. *Human Movement Science, 27*(2), 200-214.

[3] Missiuna, C., Rivard, L., & Pollock, N. (2004). They're Bright but Can't Write: Developmental Coordination Disorder in School Aged Children. *Teaching Exceptional Children Plus, 1*(1), n1.