



Evidence-Based Recommendations For Handwriting Instruction

Learning to write letters is a complex task. Handwriting instructors are bound to seek the best path for students during this process. The Write Way Infographic was developed in conjunction with Letter-Perfect Handwriting Instruction to provide evidence-based recommendations for the following common questions:

1. Is it necessary for beginning writers to use short, wide, or triangular shaped pencils?
2. Should beginning writers use special paper?
3. Does grasp pattern matter?
4. Do supplemental pencil grips improve handwriting?
5. Should children be encouraged to write on vertical or slanted surfaces?

**The following recommendations are meant to supplement handwriting instruction. The main focus of instruction should center on explicit instructions and ample practice. Recommendations are generalized for students learning to print letters. Some students may benefit from specific handwriting interventions or modifications. For those students, an occupational therapy evaluation is recommended.*

Pencil style

Offer students a variety pencils.

Several studies have found that although the length or width of a pencil does not affect handwriting performance, students may show a preference for certain pencils based on aesthetics, shape, or size, which may improve motivation for handwriting practice (1, 2).

Paper

Keep task demands consistent by minimizing line variations during the initial phase of handwriting instruction.

One study found that using differently lined paper (double, triple, or quadruple-lined) may be confusing for students (3). Paper variety can be introduced once students show proficiency with letter formation (4).

Grasp Patterns

Reconsider the need to alter atypical grasp patterns if handwriting is functional. Encourage students to hold the pencil closer to the tip for greater control.

Although the dynamic tripod grasp has been considered to be optimal, researchers have found that proficient handwriters use a variety of mature grasp patterns (5, 6).

Pencil Grips

Consider adaptive pencil grips to encourage finger placement.

An abundance of inexpensive adaptive pencils grips are available commercially; although there is sparse research indicating their efficacy, grips are an easy modification for students to trial (7).

Writing Surface Orientation

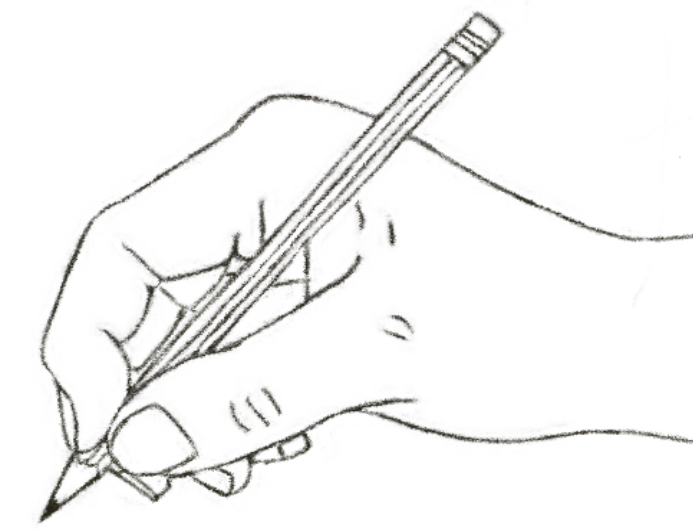
Consider slant boards or vertical surfaces.

Writing on an inclined or vertical surface may position a student's wrist to better support control of the fingers. However, there is a dearth of research to support this method (8).

Researchers have not found that a specific formula of writing paraphernalia will routinely improve handwriting ability or quality. However, instructors may offer various writing paraphernalia and encourage students to experiment to find personal preferences.

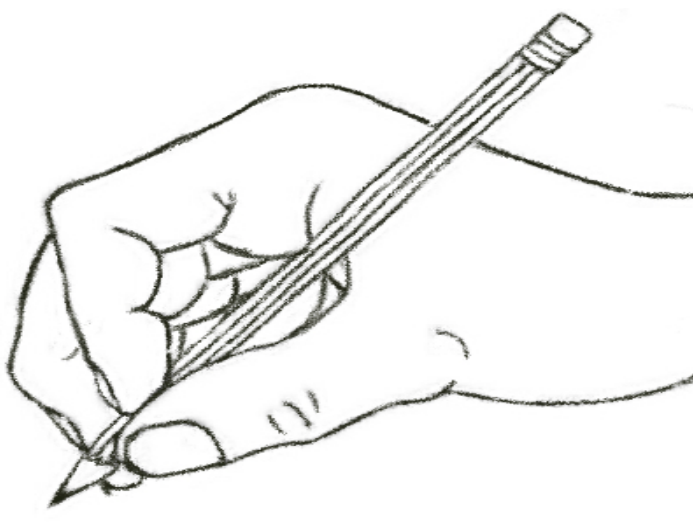
Common Functional Grasp Patterns

Research suggests that the following common pencil grasp patterns are equally functional and are able to produce writing with similar speed and legibility (5).



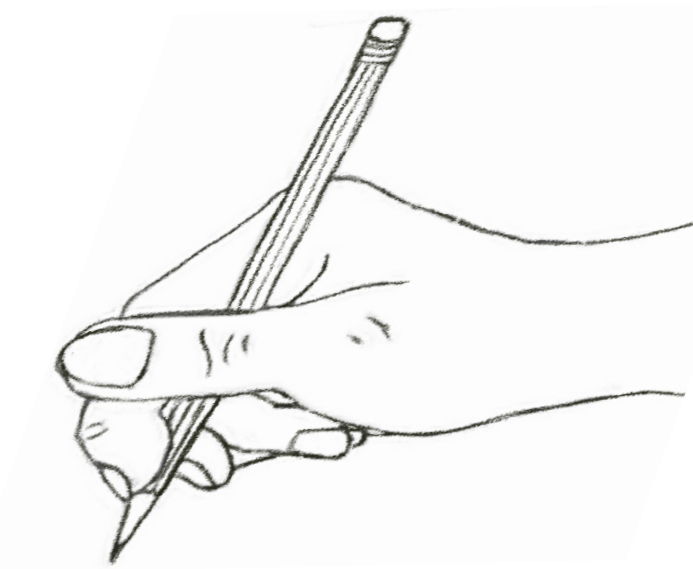
Dynamic Tripod

The pencil is held between the tip of the thumb and the end of the index fingers; it rests on the side of the middle finger. Pencil movement is guided by the thumb, index and middle fingers.



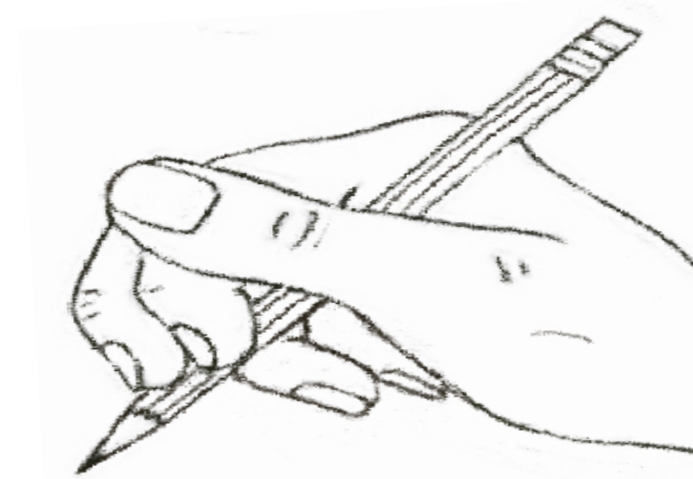
Dynamic Quadupod

The pencil is held between the tip of the thumb, the end of the index finger, and tip of the middle finger; it rests on the side of the ring finger. Pencil movement is guided by the all of the fingers.



Lateral Tripod

The pencil is secured between the middle of the thumb and the side of the index finger. Pencil movement is guided by the index and middle fingers.



Lateral Quadupod

The pencil is secured between the middle of the thumb and the tips of the index and middle fingers. Pencil movement is guided by the index, middle, ring fingers.

References

1. Sinclair, B., & Szabo, S. (2015). Pencil size and their impact on penmanship legibility. Texas Journal of Literacy Education, 3(1), 5-13.
2. Oehler, E., Dekrey, H., Eadry, E., Fogo, J., Lewis, E., Maher, C., & Schilling, A. (2000). The effect of pencil size and shape on the pre-writing skills of kindergartners. Physical & Occupational Therapy in Pediatrics, 19(3-4), 53-60.
3. Reidlinger, W., Candler, C., & Neville, M. (2012). Comparison of differently lined paper on letter production quality in first graders. Journal of Occupational Therapy, Schools, & Early Intervention, 5(2), 155-164.
4. Asher, A. V. (2006). Handwriting instruction in elementary schools. The American journal of occupational therapy, 60(4), 461-471.
5. Schwellnus, H., Carnahan, H., Kushki, A., Polatajko, H., Missiuna, C., & Chau, T. (2012). Effect of pencil grasp on the speed and legibility of handwriting in children. American Journal of Occupational Therapy, 66(6), 718-726.
6. Schwellnus, H., Carnahan, H., Kushki, A., Polatajko, H., Missiuna, C., & Chau, T. (2013). Writing forces associated with four pencil grasp patterns in Grade 4 children. American Journal of Occupational Therapy, 67, 218-227
7. Ferriell, B. R., Fogo, J. L., McDaniel, S. A., Schillig, L. R., Shehorn, A. R., Stringfellow, J. K., & Varney, R. L. (2000). Determining the effectiveness of pencil grips: an electromyographical analysis. Occupational Therapy in Health Care, 12(1), 47-62.
8. Brevoort, K. N. (2017). Effect of Slant Boards in Combination with Handwriting Practice.