

CURSIVE WRITING: THE RIGHT WAY TO WRITE

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In the digital age, cursive writing is no longer considered an essential part of the curriculum in America's schools. Classroom teachers now have both traditional and technological ways to engage students in learning, particularly in the area of written expression. Tasks that have traditionally been done with paper/pencil can be done through keyboarding, and schools across America are moving rapidly to this approach to learning. Therefore, handwritten work is gradually disappearing from our classrooms in favor of keyboarding for student output (Graves, Parsons, & Towne, 2014).

In light of the shift to keyboarding, a key area of investigation has been on the efficacy of handwriting, both manuscript and cursive (Berninger, 2012). Numerous studies have focused on the differences in writing fluency and/or compositional quality among students of various ages and between modes of transcription (Wollscheid, Sjaastad, & Tomte, 2016). A growing body of research demonstrates that leaving the traditional mode of writing for keyboarding is negatively impacting the cognitive development of the learner (Berninger, 2013).

There is a strong theoretical basis connecting cognition and writing skills. There are three primary theoretical approaches that support this belief: Vygotsky's social constructivism theory (Vygotsky & Kozulin, 1986), the "cognitive process of writing" theory developed by Flower and Hays (1981), and Virginia Berninger's "simple view of writing" theory (2002). These three theories work together as they collectively focus on the interdependent relationship between thinking and writing.

Vygotsky's construct is based on the premise that language development is high social and that through the rich interactive nature of communication, the young learner first becomes proficient in oral language. Verbal language is the foundation for building written language and the cognitive structures of learning. As the learner matures, oral language becomes inner language. Inner language is an abbreviated form of oral language that silently and more efficiently directs the child's cognitive actions. Inner language is the catalyst allowing the student to communicate in writing to an absent person – the blank sheet of paper.

Developed by Flower and Hayes (1981), the cognitive-process theory of writing asserts that the writing process is highly complex and is directed by the learner's own thinking in a hierarchical fashion. Throughout the writing process, the brain acts as its own monitor in planning, getting thoughts on paper, reviewing, and goal setting (Berninger et al., 1997). In contrast to other writing theories that see the writing process as stages of completion in a linear fashion, Flower and Hays assert that the writing process involves many different "sub-processes" occurring simultaneously. As the pencil takes to the paper, the cognitive process of writing theory provides the depth and detail to discern what is happening cognitively during the writing process.

The "simple view of writing" developed by Berninger (2002) centers on the role of working memory and its prominence in the writing process. The components of transcription (handwriting, keyboarding, and spelling), executive functioning (conscious attention, planning, reviewing, revising, and strategies for self-regulation), and text generation (words, sentences, and discourse) are dependent upon working memory. If more working memory is needed for one of the three components, the other two will not receive the cognitive resources needed (Connelly et al., 2007).

Handwriting instruction has always had an important place in America's classrooms. Introduced in the colonial period, cursive writing was primarily taught to boys, but handwriting was laborious (Thornton, 1996). The complex and artistic approach of Spencerian handwriting was introduced in the 1800s. By the 1880s, the fountain pen replaced the quill pen, and the practical and efficient Palmer method became ubiquitous in America's classrooms. Early in the 20th century, manuscript handwriting was introduced; eventually, the Zaner-Bloser method of cursive writing replaced the Palmer method as the most utilitarian approach of teaching handwriting skills.

As the use of technology expanded, the role of traditional handwriting has steadily decreased. Manuscript writing is still taught in the early primary grades, but curriculum standards no longer include cursive handwriting as a required skill (Karavanidou, 2017). While student engagement is greatly enhanced by the use of technology, the benefits and importance of traditional handwriting skills is

regaining significance. As a result, the two primary modes of transcription, keyboarding and paper/pencil, are competing for dominance (Mueller & Oppenheimer, 2014).

Today's learners spend more and more instructional time in front of a screen and keyboard, and it is important to understand what may be lost if students do not learn using the traditional mode of paper/pencil tasks, particularly cursive. Emerging research indicates that leaving the traditional mode of writing for keyboarding is negatively impacting the cognitive development of the learner (Berninger, 2013; Grapes et al., 2014; Karavanidou, 2017; Kersey & James, 2013). If schools are embracing technology at the expense of the development of cognitive skills, including executive functioning skills, then this empirical data can be used to promote dialogue and collaboration on this important issue.

The justification for the continued use of cursive includes its impact on the quality of written work, literacy, and executive function (Gentry, 2016; Kersey & James, 2013). The process of handwriting is highly complex and involves fine-motor movement, visual-motor coordination, and other cognitive skills. Numerous studies have shown that taking notes by keyboard instead of by hand results in shallower processing and poorer recall of material (Aragon-Mendizabal et al., 2016; Duran & Frederick, 2013; Mueller and Oppenheimer 2014; Peverly et al., 2012). Other studies indicate a higher compositional quality and writing fluency on essays written by hand than those written by keyboard (Berninger, 2012; Berninger et al., 2009; Mangen & Balsvik, 2016).

The process of writing by hand is highly complex and allows students to gain cognitive and literacy skills that cannot be duplicated when using a keyboard (Alonso, 2015; Gentry, 2016; Heavens, 2015). Handwriting practice wires the brain for reading and writing success and contributes to reading fluency. The motor areas of the brain that are simultaneously activated while engaged in reading and writing activities are clearly evident. Writing and reading go hand in hand, and they share common characteristics such as providing feedback and encouraging higher order thinking skills. Writing by hand stimulates brain activity and memory as well as encourages fine motor development and eye-hand coordination.

The cognitive benefits of cursive for all students has been clearly stated, and this is especially for students diagnosed with dyslexia and/or dysgraphia. The use of cursive is valuable for memory, fluid movement,

fine-motor skills, and overall "brain connectivity." When handwriting is used, the brain receives feedback from the fingers, and that feedback is stronger than what is received from typing (Trond, 2011). Cursive allows the student to think in words instead of individual letters through the fluid movement utilized without lifting the pencil. Letter reversals and confusion about letter formation dissipate as the student adopts cursive and uses it consistently. As cursive becomes automatic, working memory resources are freed to facilitate deeper thought construction on the written page.

In addition, learning and using cursive requires conscious effort, time, and discipline. The learning process and corresponding skills are seen as valuable practices in the training of every student. Even though keyboarding may be quicker, the end result often lacks the careful thought and reflection that develops when doing work in cursive (Kiefer et al., 2015).

Research in the field of handwriting has significant implications for every NILD educational therapist. There are key reasons for the emphasis and consistent use of cursive, both in session and in the regular classroom: 1) it provides cognitive stimulation and strengthens memory, 2) reduces the confusion on letter formation, 3) it fosters the ability to compose thoughts and ideas, 4) it enhances the development of fine-motor skills, and 5) it encourages self-discipline in learning and developing new skills.

The Rhythmic Writing motifs provide repeated practice with letter formation and the fluidity of handwriting. In addition, the technique emphasizes correct arm and hand position when writing which results in less fatigue. The use of the mat accomplishes these same goals on a horizontal plane. When guiding students through Rhythmic Writing, it is important to emphasize a flowing movement across the board without allowing the motifs to become constricted.

Cursive has been taught and used in America's classrooms for over 200 years. As new technology has developed and evolved, it has significantly impacted the educational environment. In light of curriculum mandates, cultural influences, and ever-changing technological advances, we are at a cultural crossroads regarding the viability and efficacy of cursive in the future. There are strong and scholarly opinions on both sides of the issue, but there is current, empirical evidence to clearly support cursive's continued use.

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