
September 2014

On Cursive Writing, Keyboarding, and Handwriting: An Argument of Efficacy

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Recommended Citation

Grapes, Madison E.; Parsons, Elise; and Towne, Ruth E. (2014) "On Cursive Writing, Keyboarding, and Handwriting: An Argument of Efficacy," *The Idea of an Essay*. Vol. 1 , Article 15.

Available at: https://digitalcommons.cedarville.edu/idea_of_an_essay/vol1/iss1/15

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**“On Cursive Writing, Keyboarding, and Handwriting:
An Argument of Efficacy,” by Madison Grapes, Elise
Parsons, and Ruth Towne**

Instructor’s Note

Madison Grapes, Elise Parsons, and Ruth Towne’s argumentative synthesis demonstrates how effectively freshmen can collaborate on a research project. When Madie, Elise, and Ruth first ran their topic choice by me, I initially responded, “Are you sure this is a viable topic? Is it even controversial?” Because they’d already conducted some preliminary research, they were able to answer that question in detail: Presently, educators disagree for many reasons on how important it is for students to learn cursive writing. The three students’ paper represents the attentiveness to detail, thoroughness of research, and thoughtful consideration of opposing viewpoints this type of persuasive essay requires. It also meets its intended audience of scholars and sensitively negotiates the complexities educators and their students face in regards to this controversy. Although you may never have considered whether students should learn cursive writing in elementary school, what do you conclude after reading this essay? Think about what does, or doesn’t, convince you? What do you find to be the most effective part of the paper? How does the paper live up to its name and synthesize diverse scholars’ perspectives? And as you read it, could you see yourself, back in elementary school, learning (or not learning, as the case may be) cursive writing? If so, how did these writers incorporate appeals to pathos amid such a scholarly discussion that is logoi-heavy?

Writers’ Biographies

Enjoying her first year at Cedarville, Madison Grapes (or Madie) is a sophomore by credit and plans on achieving a dual major in English and Graphic Design. If she ever finds some free time, she enjoys reading the classics, writing flash fiction, playing her violin, and singing with the Cedarville University Women’s Choir.

Apart from her artsy side, she proudly cheers on the sports teams from her hometown of Pittsburgh, Pennsylvania.

Elise Parsons, a Graphic Design and English dual major, has taken her love of poignant words and images all over the United States following her father's Air Force career. She continues to entertain (and pester) her supportive family with scraps of original poetry and serial fiction while living at home in Cedarville, Ohio. While she is most often on the edges of events with a camera or notebook, you may also find her jogging or playing tennis, performing in the viola section of the Cedarville University Orchestra, or making progress on her growing list of books to read.

A native of Southern Maine, Ruth Towne is a freshman Technical and Professional Communications major with a Creative Writing minor. Because she enjoys her tea-time, Russian novels, T.S. Eliot, dabbling in creative fiction, and the occasional crossword, people often tell her that “she was born ‘old.’” However, when she is not engaged in scholarly pursuits, she enjoys participating in many different sports—especially track and field—antagonizing her three brothers, and going out to eat breakfast with her Nanny.

On Cursive Writing, Keyboarding, and Handwriting: An Argument of Efficacy

From his position as a Silicon Valley entrepreneur, author, and mentor to the young Steve Jobs, Stewart Brand commented, “Once a new technology rolls over you, if you're not part of the steamroller, you're part of the road” (“Stewart Brand Quotes”). The educational community often displays the steamroller mentality in their drive to equip children with the newest and most relevant knowledge. In some cases, however, pressure to conform to the new and relevant has also lead American school districts to flatten essential areas of knowledge like cursive handwriting. Vi Supon sums up the condition of cursive in American education, noting the divergent amounts of emphasis placed on cursive by different school districts and

individual schools, and that continuous instruction in cursive normally ends before fourth grade (357). He concludes that cursive writing has fallen victim to emphasis on government-tested subjects and new technology, among other factors within American educational thought (359). Some teachers have used keyboarding to assist children who struggle with handwriting because of complex disabilities or simple coordination struggles, but they cannot cite sufficient benefit to supplant cursive handwriting with keyboarding for all students. Therefore, schools should pursue complete handwriting instruction for its educational benefits and continued social relevance because keyboarding does not provide the same benefits and often introduces its own disadvantages; moreover, even for children with disabilities, handwriting provides life skills that keyboarding cannot develop.

While very few would argue to omit handwriting instruction entirely, many school systems have decided to replace cursive writing with keyboarding. However, teaching children cursive develops unique brain functions and trains reading skills while developing legibility and efficiency in writing, which remains a socially relevant skill. The motor training involved in learning cursive writing also aids in the recognition of cursive letters. Longcamp et al. explain that after enough repetition of handwriting motions the brain stores each letter as a “motor program” to which it then refers in order to identify letters observed or constructed in the mind (808). By contrast, keyboarding teaches the brain to associate a letter with a directional movement relative to the fingers, which can never be very precise because it depends a great deal on the orientation of the fingers in space (803). Such a motor program does not pertain at all to the visual appearance of the letters; thus, it does not benefit character recognition as does repeated formation of the letters by hand. Because, as Graham points out, cursive letter forms vary widely from their print counterparts (46-70% in the common D’Nealian curriculum), cursive recognition requires learning a different alphabet of motor programs (qtd. in Shimel, Candler, and Neville-Smith 174-175). Since cursive letter forms differ from print, learning cursive writing develops

the unique character recognition necessary for cursive reading better than learning only print.

Those who argue for the transition to keyboard instruction often point out the superior legibility of keyboarding as compared to cursive. As Rogers and Case-Smith claim, children with messy script should use typing since it would normally improve the readability of their work (38). Admittedly, handwritten cursive struggles to match the lucid uniformity of Helvetica or Times New Roman, and such uniformity does contribute to communication, especially when read quickly. However, even those who advocate teaching only printing and keyboarding agree that some form of swift legible handwriting is still a necessity. Graham, Weintraub, and Berninger's study on the speed and legibility of different styles of handwriting compared several students' methods of meeting this necessity and found a correlation between increased speed and legibility and the use of an individualized combination of print and cursive handwriting. They explain:

Changes or deviations associated with faster handwriting include... using a mixture of manuscript and cursive letters. Although it is not clear if these changes were responsible for the increased handwriting speed, or a consequence of it, strict adherence to a particular style or form of handwriting cannot be recommended and would likely frustrate both the teacher and the child (295).

They also note that the clearest style of handwriting was a blend of cursive and print, favoring cursive letters (294). Therefore, students should learn both print and cursive writing in order to write as quickly and clearly as possible. Since legibility and speed will be priorities as long as handwriting remains necessary, it follows that the teaching of cursive writing should remain a priority.

Each of these factors suggests that cursive is not yet a relic of a bygone era. Cursive handwriting does not simply replace what has already been learned in print writing; instead, it provides unique benefits by supplying the necessary information to read cursive writing and refining the handwriting process into a useful tool in

literacy. Nevertheless, many continue to argue, as Broun does, that handwriting lost its relevance when keyboarding became widely accessible. Although speaking specifically about children with disabilities, Broun makes the sweeping statement that functional literacy can be achieved not merely without cursive but without handwriting through the use of the keyboard because she defines literacy as the capacity to exchange thoughts through a visual medium (17). However, Broun's view seems somewhat optimistic about the practical functionality of such an approach and may overestimate the dominance of keyboards in everyday life. As long as daily tasks such as "[w]riting notes, recipes, prescriptions, messages, checks, and filling out application" require handwriting, teachers would be shortsighted not to equip children to read it and use it as effectively as possible (Crouch and Jakubecy).

Advocates for keyboarding suggest that children's interest in computers motivates them to learn to type and therefore proves to be the superior writing style. Klein et al. claim that when keyboarding, young students' satisfaction rose during narrative writing as did their eagerness to take part in writing exercises (20). Additionally, students seemed to find using the computer easier than dealing with writing motions (van Leeuwen and Gabriel 423). Other scholars argue that computers not only simplify and create enjoyable writing tasks but also motivate children with and without disabilities. While acknowledging that word processing requires less movement control and planning than composing by hand, Rosenbaum reasons that children are more interested in composing at the keyboard (qtd. in Chwirka, Gurney, and Burtner 41).

However, perhaps such scholars assume that a children's interests should determine their elementary education. Furthermore, elementary students seem to find composition exciting in either medium. One study showed that students displayed an excitement to write either by keyboarding or by handwriting (van Leeuwen and Gabriel 423). Keyboarding cannot provide benefits equal to those of print or cursive; thus, it should not replace handwriting in elementary education. Moreover, since students show

motivation to learn keyboarding, perhaps integrating it as a reward would increase student's motivation to learn handwriting.

Scholars also claim that typing increases perceived transmission speed. Keyboarding does tend to be significantly faster than handwriting for adults (Rogers and Case-Smith 35); however, at the elementary level, students produce sentences at a faster rate writing by hand than when composing by keyboard. In Berninger et al.'s study, "[w]hen outcome was number of seconds required per word, consistently, second, fourth, and sixth graders produced words in essays at a faster word production rate by pen than by keyboard" (129). Hence, although many researchers believe that children would become faster writers by typing, various studies have shown the opposite to occur.

Furthermore, the opponents of handwriting argue that keyboarding's advantages include better and longer writing samples. Klein et al. determine from the Bangert-Drowns study "that the use of word processing had only a small albeit positive effect on the quality (e.g., clarity, grammar, spelling, punctuation) and quantity of written communication" (8). Bangert-Drowns' results indicate that keyboarding advantages correlate with word processor programs that have assistive elements. Assistive technologies such as spelling and grammar checks increase writing quality by correcting a child's errors but ultimately avoid teaching the child the essence of his mistake. Klein et al. concur from their study that works completed with word processors displayed cleaner script after typing instruction than works completed by pen or pencil. However, even composing by keyboard, students still failed to overcome incorrect separation of "word/letter" and "spelling errors" (20).

Although keyboarding proves beneficial in such instances, research indicates that keyboarding is neither practical nor efficient at the elementary age. Crouch and Jakubecy assert that a major step in training a child to communicate by composing is having her transfer ideas to words by hand. Without having the training, a young

student would be incapable of converting that training to computer keyboarding. Berninger et al. further claim that because keyboarding involves both sides of the brain, the mechanism called the “corpus callosum” must accord the two halves and may not completely develop until after the elementary age (qtd. in Berninger et al. 136). Additionally, Warwold et al.’s study with forty-five fourth graders shows that after computer typing lessons and individual keyboarding exercises ceased, the keyboarding skills the children learned eventually diminished (qtd. in Freeman et al. 130). Because children’s brains are not fully developed and they are too young to maintain the skills for long, keyboarding would not be a beneficial replacement of either handwriting form.

Moreover, children have no need for keyboarding skills before the fourth grade. Byfield and LaBarre, and Sormunen do not offer an ideal age to begin typing instruction, advising that it is best learned when students must apply it to other tasks (qtd. in Freeman, MacKinnon, and Miller 130). According to Minkel, “[t]he rationale for this recommendation is that the proposed advantages of keyboarding competency and enhanced motivation is related to having a reason to use keyboarding with opportunities for ongoing practice closely following instruction” (qtd. in Freeman, MacKinnon, and Miller 131). Citing Case-Smith and Weintraub, Klein et al. state that children cannot type effectively until fourth grade because they do not have the specific coordination skills keyboarding necessitates (7). Thus, since keyboarding proves unnecessary and difficult to comprehend at a young age, it should not be taught until after the elementary years.

Lastly, while keyboarding may immediately improve the students’ ability to express thoughts, it leaves their actual handwriting weak. Research indicates that keyboarding and handwriting develop different types of skills. Preminger, Weiss, and Weintraub state that “[k]eyboarding requires the memorization of a large number of associations between spatial locations and verbal codes” while “[h]andwriting. . . requires the matching of a motor program for the formation of a specific allograph

[character] and then executing this program” (199). Because the mental activity required for keyboarding differs from the requirements of handwriting, simultaneous instruction may result in competition for the student’s time and resources, perhaps making the pursuits mutually exclusive. Sulzenbruck et al. explain that “the use of computers not only affects the specific skill of handwriting, but also similarly affects fine motor skills and thus more general features of the human behavioral repertoire” (250). Experts also claim that handwriting proficiency has generally declined in proportion to keyboarding popularity. Sulzenbruck et al.’s study results, in which younger and more technologically savvy participants failed to trace a straight line as quickly or as accurately as older participants, indicate that those exposed to technology have poorer motor skills than those who had not grown up in the technological era (247). Thus, while both can be useful methods of communication, educators should not assume that learning to type will equip students with the same skills that handwriting teaches.

For disabled students, determining the best form of writing proves critical in order for those students to be successful. Some writing instructors note that handwriting and keyboarding require separate skill sets, although they resemble each other in some aspects, such as visual motor skills. Thus, experts suggest that keyboarding therapy-- which includes using a word processor in place of pen or pencil (Crouch and Jakubecy)-- can improve visual motor skills and subsequently handwriting skills (Chwirka, Gurney, and Burtner 41). They also demonstrate that keyboarding can aid those with “central nervous system damage” and may assist individuals with learning disabilities involving “visual-motor deficits” (Chwirka, Gurney, and Burtner 46-47). Therefore, based on their study they suggest that students with mild learning disabilities not warranting special education would benefit greatly from technological assistance (49). While keyboarding may be appropriate for children with strong disabilities, however, handwriting has benefits for most students with and without disabilities. According to Missiuna, Rivard, and Pollock, although keyboarding

improves writing in some cases, it cannot be applied in every circumstance. Primarily, they focus their research on children with Developmental Coordination Disorder (DCD). They describe DCD as a condition that affects a young person's aptitude to function in daily life since the disorder consists of bodily clumsiness from uncoordinated or slow movement. While DCD contains many similarities to ADHD and they are often linked disorders, DCD has sometimes been treated effectively by keyboarding therapy while ADHD has not (Missiuna, Rivard, and Pollock). Missiuna, Rivard, and Pollock argue that "[k]eys don't change location so children are able to learn the motor program required to push them down. Handwriting requires a child to continuously monitor writing with his eyes and never becomes completely automatic in the child with DCD." Since handwriting does not come naturally to DCD students, Missiuna, Rivard, and Pollock suggest keyboarding as an alternative transcription method.

Because handwriting and keyboarding skills have not been conclusively correlated, therapists have no way of knowing which children will benefit from keyboarding therapy (Preminger, Weiss, and Weintraub 194). Although handwriting may not develop into a natural skill in children with DCD, various advocates for handwriting assert that keyboarding is actually the more difficult writing process for non-disabled students. Those who support handwriting, like Berninger et al., describe how keyboarding requires more of an effort because "two hands" are needed to type efficiently, affecting the two parts of the brain; by contrast, composing by hand utilizes "only one hand" and only one part of the cerebrum (136). Therefore, not only would most non-disabled students find handwriting easier, but many students with DCD would also benefit from handwriting because it requires simpler brain functions.

The most common alternative to keyboarding for children with DCD, known as remedial handwriting therapy, uses "systematic techniques that improve functioning" and "seek[s] to correct handwriting either through direct instruction of handwriting or a fine motor program." Thus, it acknowledges handwriting's importance

as a life skill for disabled children and actually improves writing through fine-motor instruction. Concerning remedial therapy, Crouch and Jakubecy claim that “drill and practice,” defined as “[r]epetitive practice, along with correct position and pencil grip,” improve handwriting. As shown in studies done with a dysgraphic student, handwriting therapy enhances readability and most likely improves writing ease (Crouch and Jakubecy). These coordinated movements may also be transferred to other tasks. Such coordination is especially important for children with DCD, for whom clumsiness often becomes an embarrassment despite their aptitudes in other areas. In their study of children with DCD, Missiuna, Rivard, and Pollock claim that their subjects displayed motor skill impairment and performed poorly in academic and social circles, though they seemed to be reasonably intelligent. Since they had poor hand-eye coordination, they also could not perform self-care tasks, wrote poorly, and often struggled with pencil gripping. As explained by Missiuna, Rivard, and Pollock, “[DCD children’s] coordination difficulties may appear subtle but they can have serious academic, social and emotional consequences.” Because fine motor skills have such a broad impact on a child’s life, training in handwriting may benefit the child beyond her ability to transcribe words.

Keyboarding cannot claim the same benefits as handwriting because keyboarding trains a different motor program which does not focus on the fine motor skills of the hand. Therefore, not only can handwriting therapy improve writing ability in more circumstances than keyboarding can, but handwriting therapy may also rebuild the self-esteem children lose through their academic struggles. While keyboarding circumvents children’s issues by engaging separate skills, remedial handwriting therapy is preferable because it conquers the core issue, perhaps improving motor and handwriting skills and also developing character.

Although keyboarding, the “steamroller” of communication, warrants application in some instances, it should not crush cursive writing in the elementary

education curriculum. By training the cognitive processes necessary to reading and improving legibility and efficiency in writing, cursive remains both necessary and socially relevant. Though some may argue that keyboarding skills may benefit elementary students, handwriting appears to be a more advantageous and effective method of transcription for elementary children with and without disabilities. In paving a path for education, American school systems should follow the proven road of handwriting for writing success.

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