
Handwriting and Common Core State Standards: Teacher, Occupational Therapist, and Administrator Perceptions From New York State Public Schools

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Handwriting is the cornerstone of written performance and communication for school-age children. This mixed-methods study explored the impact of Common Core State Standards on handwriting instruction and its effects on perceptions regarding children's written responses in elementary school. Using surveys and interviews of elementary teachers, occupational therapists, and administrators in New York State public schools, we sought to understand current trends in handwriting instruction, changes in time spent on handwriting instruction in the classroom, supports offered to students who did not meet expectations for handwriting, and the impact of Common Core on children's written expression. Themes emerged revealing decreased handwriting instruction time and inconsistent use of handwriting instructional programs in the classroom after implementation of Common Core. Handwriting should be considered as a greater component in the foundational standards in Common Core. Occupational therapy services can support handwriting instruction implementation.

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Handwriting instruction is central to the foundation for learning, especially for writing, spelling development (Cahill, 2009; Graham et al., 2008), and typing efficiency (Cahill, 2009). However, Common Core State Standards (hereafter referred to as "Common Core") do not outline handwriting as a foundational skill, and the onus of implementing handwriting instruction is on teachers and institutions. A few studies have found that teacher training in this area seems to be lacking and that teachers do not feel competent in teaching handwriting (Donica, Larson, & Zinn, 2012; Graham et al., 2008). This lack of both formal preparation and guidance from Common Core may lead to variation in instructional methods and have a negative impact on handwriting performance in children.

Common Core, established by the National Governors Association Center for Best Practices (2010) to develop standards in English language arts (ELA) and mathematics, has greatly influenced handwriting instruction in elementary schools (Moats, 2012; Puranik & AlOtaiba, 2012). Common Core was designed to help American students become college and career ready on graduation from high school and is intended to help students develop relevant academic knowledge and become critical thinkers in today's competitive world (National Governors Association Center for Best Practices, 2010). Common Core incorporates reading, writing, and mathematics, but nowhere, specifically, is handwriting instruction addressed. This lack of inclusion could influence teachers' handwriting instruction in the classroom, affecting children's performance

in written expression. In this study we aimed to demonstrate that handwriting should be included as part of the foundational standards of Common Core to ensure the development of critical written communication skills.

This study was conducted to investigate the Common Core guidelines in light of the evidence supporting the importance of handwriting as a foundational learning tool (Asher, 2006; Cahill, 2009; Graham et al., 2008; Graham, McKeown, Kiuahara, & Harris, 2012). In this mixed-methods study, we explored how teachers, occupational therapists, and administrators perceived the effect of Common Core on handwriting instruction and how their perceptions then influence written performance of children. The results of this study indicate that handwriting should be included as part of the foundational standards of Common Core to enhance the rigorous preparation of children for future academic success.

Literature Review

Handwriting Instruction in Schools

Handwriting is a child occupation essential to function, work, and participate in a classroom environment and through which academic achievement is assessed (Donica et al., 2012). As Schneck and Case-Smith (2015) noted, “The functional skill of handwriting supports the academic task of writing and allows students to convey written information legibly and efficiently while accomplishing written school assignments in a timely manner” (p. 498).

Approximately 46% of a kindergarten child’s school day is spent on fine motor tasks, and 42% of that time is spent on paper-and-pencil tasks (Marr, Cermak, Cohn, & Henderson, 2003). Paper-and-pencil tasks are often completed under time constraints (Donica et al., 2012; Mackay, McCluskey, & Mayes, 2010). Thus, handwriting is an essential skill, one that must be taught well to enhance the writing process and enable children to convey their knowledge on topics they understand, know about, or can explain. Graham, Harris, and Fink (2000b) found that “handwriting is indeed causally related to learning to write” (p. 630) because “explicit and supplemental instruction in how to form and fluently write the letters of the alphabet” (p. 631) improves both handwriting components and written composition skills. A child’s ability to recall and write letters efficiently increases his or her potential to write longer, more detailed stories in later elementary grades (Cahill, 2009; Puranik & AlOtaiba, 2012). Early handwriting instruction supports academic performance and promotes successful

transition to postschool occupations (Donica et al., 2012; Mackay et al., 2010).

Legibility and speed of handwriting can affect the grade received (Graham, Berninger, Weintraub, & Schafer, 1998). Handwritten assignments are often graded on the basis of handwriting legibility (or penmanship) rather than knowledge or content of the material (Volman, van Schendel, & Jongmans, 2006). For example, when adults graded two writing samples of the same content, one with good and the other with poor penmanship, the sample with better penmanship received better grades (Graham et al., 1998). Legibility of handwritten assignments is important to distinguish what the writer is attempting to convey in terms of knowledge or understanding of a topic.

Approximately 20% of primary school-age children are identified as being at risk for developing handwriting problems (Mackay et al., 2010). Children with difficulty recalling and producing letters often have a difficult time alternating attention between cognition (the *what*) and motor planning (the *how*) of writing (Cahill, 2009), complicating their ability to read, reflect on, and revise their writing (Puranik & AlOtaiba, 2012).

Difficulties with handwriting often result in referrals to services such as occupational therapy (Cahill, 2009; Case-Smith, Holland, Lane, & White, 2012). Handwriting is a primary reason students are referred to occupational therapy, and children who receive handwriting instruction through occupational therapy intervention demonstrate significant progress in handwriting and maintain the learned skills over time (Case-Smith et al., 2012). Collaboration with occupational therapy using a coteaching method and effective handwriting programs may provide teachers with a solution for decreased handwriting instruction time in the classroom (Case-Smith et al., 2012). Hoy, Egan, and Feder (2011) suggested that handwriting interventions, beyond handwriting instruction, are most effective when presented at a frequency of twice per week for a minimum of 20 sessions. A noninstructional solution for poor handwriting is keyboarding. However, inefficient handwriting skills have been shown to affect keyboarding skills, limiting the success of this option (Donica et al., 2012).

Common Core and Handwriting

Under Common Core, kindergarten children now have greater expectations to produce complete sentences to inform on a topic, provide an opinion, or narrate an event (New York State Education Department [NYSED], 2011). However, “children exhibited a range of performance when writing about their experiences in kindergarten,

with some exceeding and some falling behind Common Core standards” (Puranik & AlOtaiba, 2012, p. 1539). Thus, educational success for elementary students begins with handwriting.

Adequate instruction is required for students to achieve success with handwriting for written assignments required through Common Core. Presently, the provisions within Common Core to support this foundational skill are insufficient. New York State (NYS) implemented its Common Core curriculum as “Engage NY”; its K–2 scope and sequence standards allow for the teaching and review of letters while incorporating them into writing (name, consonant–vowel–consonant words, words) for up to only 67 days in kindergarten and 35 days in first grade (reviewing handwriting through letters and words; NYSED, 2014).

Handwriting Instruction, Practice, and Intervention

Explicit instruction in the classroom and generalization into ELA programs are important components of developing the writing process (Graham et al., 2000b; Moats, 2012). Practice of writing skills beyond those instructed in the classroom is recommended to master foundational handwriting skills (Graham, Harris, & Fink, 2000a, 2000b; Hoy et al., 2011). Children with handwriting difficulties are often referred to occupational therapy, and remediation of skills for struggling writers includes addressing body functions and structures and practicing carryover skills (Asher, 2006; Cahill, 2009; Hoy et al., 2011; Ratzon, Efraim, & Bart, 2007; Volman et al., 2006). With current evidence on handwriting instruction, practice, and intervention, it is unclear exactly how instruction is delivered, what specific practice opportunities are or should be provided, and what the best remediation interventions are.

Handwriting is losing its foundational place in schools as instructional material that focuses on supporting Common Core, and standardized, high-stakes testing takes precedence. Teachers must teach large amounts of material in ELA and mathematics; how to teach Common Core is left to state interpretation, such as with Engage NY (NYSED, 2014). Teachers often limit handwriting instruction content because of the large amount of Common Core material they must cover in one academic year (Graham et al., 2012).

Handwriting instruction in school settings has been investigated in terms of programs, materials used, instructional factors, developmental processes for handwriting, and remediation of handwriting difficulties through occupational therapy (Asher, 2006; Cahill, 2009; Case-Smith et al., 2012; Graham et al., 2008; Howe, Roston,

Sheu, & Hinojosa, 2013; Hoy et al., 2011; Puranik & AlOtaiba, 2012). Two studies found that handwriting instruction was not being adequately addressed in college preparation (Donica et al., 2012; Graham et al., 2008). Insufficient handwriting instruction was identified as an obstacle within Common Core relating to reading and writing (Moats, 2012). Troia and Olinghouse (2013) addressed strengths and weaknesses of the writing process within Common Core. However, a paucity of research exists examining how the decrease in handwriting instruction in Common Core affects the writing process.

The purpose of this mixed-methods study was to understand and explore teacher, occupational therapist, and administrator perceptions of handwriting instruction after implementation of Common Core in NYS schools. The Common Core and Engage NY have significantly changed teacher instruction, in some cases decreasing or eliminating handwriting instruction. We asked the following questions:

- What are the present instruction strategies and instruction time for handwriting in the classroom, and how has Common Core influenced handwriting instruction and instruction time within the classroom?
- What supports are offered to students who do not meet expectations for handwriting?
- What impact has Common Core made on children’s written expression?

We believe that handwriting in Common Core has been overlooked and should be addressed. We used surveys and interviews to examine implications of Common Core for handwriting instruction. We expected to find that handwriting instruction and time allotted for instruction would be lacking and that occupational therapy could provide valuable school-related supports to increase handwriting instruction in the classroom.

Method

Design

This mixed-methods design consisted of surveys and interviews completed by elementary teachers, occupational therapists, and administrators in NYS public schools. The surveys were designed in collaboration with students at Xavier University and modified from an original survey by Asher (2006) with permission from the author. Modifications from Asher’s original survey included adding items on the effects of Common Core implementation on handwriting instruction (see Supplemental Appendix A, available online at <http://otjournal.net>; navigate to this article, and click on “Supplemental”). Survey information was

collected online through SurveyMonkey (SurveyMonkey, Palo Alto, CA). Interviews took place both in person and electronically (i.e., using Skype; Skype Communications SARRL, Luxembourg) at the convenience of the participant.

Participants

After approval by the institutional review board at the authors' institution, participants were recruited by email through New York State Education Department Information and Reporting Services (2014). Participation was voluntary. School administrators at all 696 schools listed were emailed and asked to share the study information and survey link with teachers and occupational therapists in their schools. The study specifically sought elementary school teachers (K–6), special education teachers, school principals, curriculum directors, and occupational therapists in NYS public schools. These professionals were chosen because of their relation to direct instruction, role in directing instruction, or role in addressing remediation services for handwriting.

A total of 131 individuals completed the survey; it is unknown specifically how many people received the survey because of the nature of the recruitment procedures. Participants provided informed consent at the beginning of the survey. Surveys were received from all geographic locations in NYS and members of each profession. Participants provided contact information to participate in an interview if they desired. Ten interviews were conducted in pairs consisting of two of the authors, with professionals who completed the survey and volunteered to participate in an interview, including one principal, six occupational therapists, one kindergarten teacher, one first grade teacher, and one teacher who taught both third and fourth grades. Interviews were conducted in person or over the phone at the convenience of the interviewee. The purpose of the interviews was to triangulate data from the surveys regarding handwriting instruction and the impact of Common Core implementation (interview questions are provided in Supplemental Appendix B, available online at <http://otjournal.net>; navigate to this article, and click on "Supplemental"). Participant demographics are summarized in Table 1.

Data Collection

The survey included 122 questions. The first questions addressed demographics, and subsequent questions were divided by position in school (K–2 teacher, Grade 3–4 teacher, Grade 5–6 teacher, occupational therapist, administrator, curriculum director, and special education teacher). Questions were then asked regarding current

Table 1. Participant Demographics (N = 131)

Characteristic	n
Position in school	
Principal	33
Occupational therapist	24
Kindergarten–Grade 2 teacher	30
Grade 3–4 teacher	19
Grade 5–6 teacher	13
Director	2
Special education teacher	8
Not reported	2
Experience, yr	
0–5	13
6–10	14
11–15	31
16–20	28
21–25	26
26–30	11
31+	8
Level of education	
Master's	110
Other	18
Not reported	3
Gender	
Female	114
Male	17

handwriting practices, handwriting curriculum used, teaching process and outcomes, perceived Common Core influence on handwriting, remediation strategies, and use of occupational therapy in the classroom.

In the interviews, we gathered additional information using open-ended questions similar to those on the survey. Reframing and repetition of questions were used during interviews to verify responses. The researchers debriefed after the interviews to review interview structure and consistency of the interview process. Peer examination was conducted throughout data collection and analysis to ensure dependability and minimize any potential bias (Krefting, 1991).

Data Analysis

Data were gathered from open-ended survey questions and coded in a code–recode process using SurveyMonkey and HyperRESEARCH (ResearchWare, Randolph, MA) based on the categories defined by the research questions. Coding was conducted by the graduate students and recoded and triangulated by the first author. Qualitative data were quantitatively tallied and analyzed to provide more specific handwriting instruction practice comparisons, and analysis and interpretation of respondents' open-ended responses provided depth to these descriptive statistics. Predetermined codes following research questions

were used, although emerging codes were also found. Interview responses were similarly coded, and information from both sets of information was triangulated for comparison and consistency and to assist in maintaining researcher neutrality (Krefting, 1991). The results of this analysis were interpreted in relation to the research questions and compared with information from previous research.

Results

Effect of Common Core on Handwriting Instruction Strategies and Instruction Time

Handwriting instruction was reported to include curriculum- and non-curriculum-based instruction, handwriting practice for speed and endurance, and insufficient or no handwriting instruction (Table 2). Of the K–2 teachers surveyed, half (57%, $n = 18$) used a published curriculum for handwriting instruction, and many teachers (43%, $n = 18$) used non-curriculum-based instruction strategies, including modeling letters in no particular letter sequence and addressing handwriting only early in the school year.

Many teachers (46%, $n = 15$) believed that Common Core had no impact on handwriting instruction. More than half of K–2 teachers, however, indicated that although handwriting curricula were available, Common Core increased instruction requirements in other areas, resulting in insufficient or no time for handwriting instruction. Respondents reported a variety of minutes per week spent on handwriting instruction; sample responses are as follows:

- “40 minutes, because no time [is] allotted in block schedule provided and with demands of Common Core.”
- “10 minutes. There is no other time to devote to it with the other required curriculum.”
- “We attend to handwriting daily, because we’re seeing incredible delays in the handwriting process. Fine motor skills are overall weak and underdeveloped.”

Weekly handwriting instruction times were commonly reported as 31–45 min, often within writing times rather than as specific direct handwriting instruction. Two respondents reported no handwriting instruction at all during a week. Other responses varied; respondents who listed “daily” without a number of minutes were added to the “other” category (Table 2).

Of K–4 teachers who responded ($n = 25$), 54% reported that Common Core decreased time for handwriting. Viewpoints on instruction time included that there was too much structure to the daily routine (13%) and that Common Core was not developmentally appropriate for school-age children (8%). Some respondents reported perceiving no effects of Common Core (13%) on handwriting, and 5% reported positive effects of Common Core on handwriting (all $ns = 25$). One teacher stated, “I think handwriting should be given a higher priority. If it is an area of weakness for a student, then it is one more obstacle they have to overcome when writing responses like the [Common Core] typically requires.” A curriculum director stated that handwriting should be taught “30 minutes \times 2 [sessions] each week for instruction; 15 minutes \times 3 [sessions] each week for practice sessions.”

Supports Offered to Students Who Do Not Meet Expectations

Teachers outlined common difficulties with handwriting practices and barriers to remediating these difficulties before referral to occupational therapy. Common handwriting difficulties reported were grip, letter formation, spacing, motor memory, fine motor skills, perceptual problems, legibility, and poor habits. The first signs of handwriting difficulties arose for students when teachers were assessing handwritten assignments. The most common method of classroom-based handwriting remediation was extra handwriting practice (56%, $n = 28$). Other remediation methods (28%, $n = 28$) were use of additional tools such as pencil grips and special paper. Through Response to Intervention, teachers often used occupational therapy-provided strategies for helping students with their handwriting, although they reported difficulties with applying strategies because of lack of time.

Table 2. Handwriting Curriculum Used and Time Spent in Handwriting Instruction per Week by K–2 Teachers ($N = 30$)

Variable	Respondents, %
Handwriting curriculum	
Handwriting Without Tears	20.0
Foundations	16.7
Zaner–Bloser	13.3
Other	6.7
None	43.3
Time spent per wk, min	
0	11.1
1–15	5.6
16–30	5.6
31–45	16.7
46–60	11.1
61+	22.2
Other	27.7

Teachers reported that when students cannot progress with the Common Core curriculum expectations or demonstrate persistent handwriting difficulties, they often refer them to occupational therapy. Occupational therapy consultation, collaboration, or direct services were reported by 16% ($n = 25$) of respondents. Occupational therapist survey and interview respondents reported that services addressing handwriting difficulties included formation, legibility, grasp, and fine motor abilities and motor, sensory, and visual or perceptual difficulties. Respondents reported an increase in occupational therapy referrals for handwriting problems since implementation of Common Core.

Impact of Common Core on Children's Written Expression

School districts in NYS have inconsistent requirements that children are encouraged to meet before beginning kindergarten. Multiple respondents (54%, $n = 71$) reported that children were assessed before entering kindergarten and were required to spell their names, identify colors and shapes, and write letters and numbers. One interviewee stated, "Some children are . . . developmentally ready for that and some children are not, and unfortunately with this whole Common Core curriculum, we're trying to cookie-cut them all into being the same."

Teachers reported that written expression assignments were negatively affected because they required increased time to complete, that the students complained about writing, and that assignments were often difficult to read. They reported that students tended to not want to write because of the length and requirements of the assignments. Teachers in the higher elementary grades (3–6), who may not have been specifically required to instruct handwriting, believed that handwriting expectations should be enforced. They reported that handwriting at the lower grades (K–2) had "suffered" because of the increased demands of Common Core. One survey respondent reported, "I've actually heard administrators use the excuse that Common Core does not have clear cut standards for handwriting so it isn't important." However, 89% of the 19 administrators who responded to the survey reported that handwriting instruction should be addressed in the early grades daily and reinforced in all writing to encourage good written expression.

Many survey and interview respondents pointed out developmentally discrepant pieces of Common Core, including too little handwriting instruction in terms of both time and curriculum. One respondent stated, "The [Common Core] curriculum in academic areas leaves little time for basic skills like handwriting instruction,"

noting that teachers could not fit handwriting instruction into their daily schedule. Teachers reported that there were too many other areas students needed to focus and work on since implementation of Common Core.

The majority of respondents (54%) reported that Common Core had too much structure, with no room for teachers to interpret and implement handwriting instruction as they needed or wanted to. Fourteen respondents reported that Common Core is not developmentally appropriate and thus was widely rejected by teachers; the respondents believed that students were suffering as a result. Respondents noted that Common Core does not address individuality and that attempts to group children as having similar skills at each grade level were not realistic for most public schools. One respondent reported that

Kindergarten is not what it used to be. There is a lot of pressure put upon the students, who are too young yet to process and understand it all. The difficulty puts a lot of students in early intervention programs where it's more immaturity that keeps them behind.

Discussion

The purpose of this research was to investigate Common Core implementation and its perceived effect on handwriting instruction in NYS. Survey data and interview narratives revealed that more than half of teachers believed that Common Core decreased handwriting instruction and instruction time for handwriting, that remediation was difficult to implement because of time constraints, that occupational therapy services were sometimes referred for, and that Common Core had negatively affected children's written expression.

Effects of Common Core on Instruction Strategies and Instruction Time for Handwriting in the Classroom

Handwriting standards are not specified in Common Core despite increased writing expectations in kindergarten, although they are addressed over a number of days in the NYS curriculum Engage NY. One example of a Common Core writing standard for kindergarten is "Use a combination of drawing, dictating and writing to compose informative/explanatory texts in which they name what they are writing about and supply some information about the topic" (NYSED, 2011, p. 26). This standard is inconsistent with student preparedness because "writing requires mastery of written symbol production . . . which requires systematic instruction and practice before written composition is possible" (Moats, 2012, p. 16). Although students may practice writing skills during these writing

prompts, it is important for them to have had explicit writing instruction and handwriting mastery to enable the writing process (Graham et al., 2000b).

Inconsistencies in use of handwriting curricula across NYS hinder instruction. Five different curricula were used in NYS, although some schools used no standard curriculum (Table 2). Each of these instruction programs provides a set of instructional methods and a recommended scope and sequence of lessons. Information regarding the extent to which teachers followed the program guidelines was not provided by this survey and should be explored in the future. Handwriting instruction programs are available and effective (Case-Smith et al., 2012; Graham et al., 2000a), but limited research support has been provided for one program over another (Asher, 2006). Consistent handwriting curricula use and time to instruct in handwriting and appropriate practice scheduling are important considerations for writing mastery.

Handwriting instruction was implemented inconsistently in respondents' schools. Weekly handwriting instruction times were most commonly reported as 31–45 min, although instruction and practice times ranged from zero to more than 150 min weekly. Most K–2 teachers reported that although handwriting was an important skill, time for instruction and practice was limited because of other curricular needs; this finding is consistent with those of studies reporting “an hour or less per week” (Donica et al., 2012, p. 130) and three or fewer scheduled practices per week (Asher, 2006). Teachers believed that Common Core provides insufficient time for handwriting instruction and that students need significantly more time to practice handwriting.

Handwriting has decreased in teacher lesson plans because of more pertinent Common Core curricular requirements. Many teachers (54%, $n = 15$) believed Common Core had changed handwriting instruction, a narrow margin of majority; only 46% ($n = 10$) of respondents reported that children were still receiving handwriting instruction as it was before Common Core. This finding has implications for the amount and type of handwriting instruction and the time available to practice handwriting for mastery of the overall writing process. Variation remains in handwriting development among same-age classrooms; further investigation in these areas may reveal patterns in this variation.

Supports for Students

Teachers identified common handwriting difficulties for students, including improper grip, decreased letter formation, poor legibility, and poor habits. Respondents reported that handwriting difficulties were not currently

addressed within the classroom because of little time, yet handwriting production and expectations continued to increase. Our results suggest that adding time and structure to address handwriting within Common Core would better prepare students to adequately produce written work. An additional support option is occupational therapy, a school-related support that is poised to address handwriting difficulties. Through collaboration with teachers and use of effective handwriting curricula, occupational therapy services may provide an effective solution for this time crunch. Effective occupational therapy interventions require time as well; Hoy et al. (2011) recommended a minimum of 2 sessions per week for at least 20 sessions.

Impact on Children's Written Expression

The results of this study support the use of sound handwriting instruction for learning the writing process and addressing handwriting deficits such as motor and cognitive processes of handwriting (Asher, 2006; Graham et al., 2008; Volman et al., 2006). Difficulties with handwriting often result in referrals to services such as occupational therapy (Cahill, 2009; Case-Smith et al., 2012). The perceived decrease in handwriting instruction in Common Core reported by respondents (16%, $n = 25$) has led to occupational therapy referrals and intervention. Overall, the implication of Common Core is that teachers limit time to implement handwriting instruction, resulting in decreased student academic performance.

Study Limitations

The results of this study should be interpreted cautiously. A limitation of this study was that surveys were sent only to school districts accessible online within NYS. Our original expectation was that more professionals would respond; future studies would benefit from better recruitment strategies. Additionally, we used the phrase “handwriting instruction” rather than refer to specific instructional practices or processes, a choice that may have affected teacher reports of actual instruction time versus practice.

Future Directions

It is our hope that this study will lead to further research on Common Core to promote inclusion of handwriting standards. Future research is recommended to address the perspectives of a wider population of school districts and professionals in other states that do and do not use Common Core. It is important to look at why a high percentage (46%) of teachers did not believe that Common Core affected handwriting instruction and to look at elements of their

practices and child populations that enabled them to maintain handwriting instruction in schools. Future research should also explore developmental considerations for school-age children when examining the structure of the handwriting instruction process, including specific instruction and practice components.

Implications for Occupational Therapy Practice

The findings of this study have the following implications for occupational therapy practice.

- Common Core has standards for writing abilities but none specifically for handwriting.
- Occupational therapists have the practice skills to provide consultative, collaborative or direct services to children in handwriting instruction and development.
- Occupational therapists demonstrate the practice skills to work with teachers and administrators to assist children in handwriting performance for school success.

Conclusion

This study provides support for the assertions that handwriting instruction should be included as part of the foundation of Common Core and that occupational therapy services for handwriting remediation can provide a valid solution. At present, instruction strategies and instruction time for handwriting in the classroom, as well as practice time for mastery, are insufficient for children to remain on pace with Common Core. Common Core standards include increased written performance outcomes for children in public schools, although the changes resulting from decreased handwriting instruction have had a cascading effect on handwriting performance, increasing referrals for occupational therapy. Without effective handwriting instruction, children's written expression will decrease and become increasingly frustrating for struggling students. Occupational therapy practitioners may assist in the instruction and remediation process through the specialized knowledge they possess of handwriting development and instruction of handwriting. As a result of this study, we recommend that Common Core be modified to include specific developmental standards and instructional time for handwriting mastery. ▲

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