

Kansas Handwriting Curricular Standards



Kansas leads the world in the success of each student.

JANUARY 2020

For more information, contact:

English Language Arts Consultant
(785) 296-2144

<https://community.ksde.org/Default.aspx?tabid=5280>

KANSAS HANDWRITING CURRICULAR STANDARDS

Contents

ACKNOWLEDGEMENTS	1
INTRODUCTION: THE NEED FOR HANDWRITING	3
Why do these standards not include keyboarding?	4
THE KANSAS HANDWRITING STANDARDS FOR BIRTH TO 5 YEARS OLD	5
Crayons to Handwriting: At the Beginning.....	5
Birth to Age 5 Handwriting.....	6
ANCHOR STANDARDS FOR HANDWRITING: KINDERGARTEN TO SIXTH GRADE	8
Standards for Grades Kindergarten to Sixth Grade.....	9
Standards for Grades Kindergarten to Second Grade	13
Standards for Third Grade to Sixth Grade.....	15
APPENDIX	17
A: Glossary.....	17
B: Shifts in 2019 Handwriting Standards	18
C: Selected Bibliography	19
D: History of 2013 Handwriting Standards Committee.....	22

KANSAS HANDWRITING CURRICULAR STANDARDS

Acknowledgements

The 2019 Kansas Handwriting Standards Committee members were carefully chosen to represent various student populations across various geographical regions of Kansas. Committee members' expertise ranged from urban to rural, public to private, early childhood through higher education. Moreover, there was a representation of specialists of English Language Learners (ELL), special education, Career and Technical Education (CTE), occupational therapists and reading specialists.

Kansas Handwriting Curricular Standards Committee - 2019

Members

- Margrette Atwood, ELL Coordinator, Shawnee Heights USD 450
- Stephanie Barnhill, coordinator of special services, Early Childhood, Spring Hill USD 230
- Holly Brecheisen, occupational therapist, Geary County Schools USD 475
- Amber Cunningham, instructional coach, Dodge City USD 443
- Elizabeth Dobler, professor of Reading and Language Arts, Emporia State University
- Sara Greene, fourth-grade teacher, Wamego USD 320
- Cynthia Hadicke, education program consultant, Kansas State Department of Education (KSDE)
- Nichole Kuhn, reading interventionist, Topeka USD 501
- April Leavitt, instructional coach, Spring Hill USD 230
- Dr. Gayla Lohfink, consultant, Southwest Plains Regional Service Center
- Kristy Oborny, librarian and fourth- and fifth-grade English Language Arts (ELA), Hays USD 489
- Joan Pauly, kindergarten teacher, Renwick USD 267
- Sheryl Plattner, fifth-grade teacher and reading specialist, Sabetha School USD 113
- Faith Rucker, kindergarten teacher, Eureka Public Schools USD 389
- Rachel Slusser, second-grade teacher and English Learner (EL) support, Shawnee Heights USD 450
- Joshua Snyder, director of curriculum and instruction, Wellsville USD 289
- Staci Straub, third-grade teacher, Hays USD 489
- Sharla Testorff, kindergarten teacher, Ottawa USD 290

Facilitators

- Joann McRell, education program consultant, KSDE
- Sarah Perryman, redesign coordinator, KSDE

KANSAS HANDWRITING CURRICULAR STANDARDS

Introduction: The Need for Handwriting

Handwriting instruction facilitates effective written composition and communication, which is the ultimate goal.

(Center on Enhancing Early Learning Outcomes, 2013)

Handwriting instruction impacts success for children not only in school, but also later in the world of college and work.

Handwriting and writing compositions are two different processes. While handwriting can facilitate the physical act of writing, it doesn't determine the effectiveness of the writer's ability to formulate and express ideas and information through written communication. In other words, handwriting becomes a tool to be used by the writer to communicate.

Handwriting is a foundational skill crucial for literacy success. It teaches letter formation and supports reading and language acquisition. Additionally, through visual perception and motor skills practice, handwriting advances neurological development and augments writing automaticity.

Learning to write the manuscript letters of the alphabet leads directly to reading acquisition. According to the National Reading Panel, letter knowledge and phonemic awareness are the two best predictors of reading proficiency. Moreover, writing letters by hand has been proven to help children recognize and remember letters more easily and to activate parts of their young brains that become critical for reading (James, 2011, 2012; Longcamp et al., 2005; Berninger et al., 2002, 2006; NICHD, 2000).

Writing by hand engages the brain in learning. Through modern brain-imaging techniques, researchers have found that neural activity was far more advanced in children who practiced manuscript by hand than in children who just looked, traced or copied letters. Handwriting, based on empirical evidence from neuroscience, seems to play a large role in the visual recognition and learning of letters (James and Atwood, 2009; James and Gauthier, 2006; James, Wong, and Jobard, 2010; Longcamp et al., 2008).

Students write most assignments and tests by hand. A 2008 study showed that older students produce at least half of their writing for school by hand. Younger students handwrite nearly 90% of their schoolwork. Standardized essay scores are influenced by handwriting. More troubling, solid research finds that handwritten tests are graded differently based on the legibility of the handwriting (Graham and Harris, 2002; Conti, 2012; Vander Hart et al., 2010). Poor handwriting can drop a paper from the 50th percentile to the 10th or 22nd percentile (Graham, Harris, and Herbert, 2011) due to legibility issues impacting the reader's ability to maintain comprehension. Essay graders of handwritten standardized tests read more than 100 essays an hour, making legibility even more important (ACT, 2011).

Handwriting instruction supports automaticity, speed and production. When students develop the fine motor skills that accompany learning to write by hand, their speed and output increase (Graham and Harris, 2005; Graham and Weintraub, 1996). Additionally, with consistent handwriting practice, the processes involved become less demanding and more automatic, enabling students to devote a higher amount of neurological resources to critical thinking and thought organization (Peverly, 2012).

Handwriting fluency continues to develop past the early grades as studies show handwriting instruction improves legibility and fluency through ninth grade. In addition, the overall quality of writing and the length of writing passages increase through ninth grade with handwriting instruction (Graham and Santangelo, 2012).

Why do these standards not include keyboarding?

The Kansas Board of Education recognized a need to focus on handwriting. This isn't to diminish the importance of students learning keyboarding skills but to strike a balance of instruction for both handwriting and keyboarding.

Kansas provides standards for keyboarding in the Kansas Computer Science Model Standards (<https://www.ksde.org/Agency/Division-of-Learning-Services/Career-Standards-and-Assessment-Services/Content-Area-A-E/Computer-Science>) adopted April 16, 2019. These standards are in the Input/Output subconcept (located under the Computing Systems concept) and begin in pre-K and continue through high school. However, specific references to keyboarding skills end in eighth grade.

Likewise, the *Kansas Standards for English Language Arts*, adopted in November 2017, also support the use of technology in the writing process and offer guidance in the amount of writing a student should produce in a single sitting. The *Kansas English Language Arts and Literacy College and Career Ready Standards* are also available on the Kansas State Department of Education's website at the following URL: <https://community.ksde.org/Default.aspx?tabid=5559>

KANSAS HANDWRITING CURRICULAR STANDARDS

The Kansas Handwriting Standards for Birth to 5 Years Old

Crayons to Handwriting: At the Beginning

Young children see the adults in their lives writing to connect with others and to share information and thoughts. Handwriting has its foundations in small muscle development and coordination, as well as eye-hand coordination. The basic ability to hold a writing tool to make a mark on paper is a beginning - leading toward meaningful communication. In order for written communication to make sense, children need to have alphabetic knowledge, print knowledge and some literacy knowledge. Therefore, the handwriting standards are built from the Kansas Early Learning Standards (<https://www.ksde.org/Portals/0/Early%20Childhood/KsEarlyLearningStandards.pdf>) in the fine motor area (physical health domain) and writing area (communication and literacy domain), highlighting the connection of physical development and literacy learning. It also is critical to use the developmental continuum of learning and to consider age appropriate abilities as the skill of handwriting is taught. Children are eager to learn and eager to share their understanding of their world. Writing can help this happen, beginning with emergent writing and resulting in meaningful communication with peers and adults.

Physical development, with a special focus on fine motor skills, is a developmental domain that includes necessary precursors to handwriting such as:

- Small muscle development and coordination.
- Eye-hand coordination.
- The ability to hold writing tools properly.
- The ability to form basic strokes.

These skills are critical: holding writing utensils, gaining strength to make marks on paper or other materials, and finally, controlling the writing device so that the marks are intentional and meaningful.

Communication and literacy, domains critical to the development of handwriting skills, include skills that help make a meaningful message or intentionality of letters. Examples are letter recognition and the understanding of printed language.

Furthermore, it is important to note that print concepts are developed prior to and in conjunction with handwriting skills. The coordination of using physical development/fine motor skills combined with understanding and using literacy skills results in intentional written communication.

Birth to Age 5 Handwriting

Fine motor skills

Young infant: "i" <i>(By 8 months)</i>	Mobile infant: "mi" <i>(By 18 months)</i>	Toddler: "t" <i>(By 36 months)</i>	Pre 3: "p3" <i>(By 48 months)</i>	Pre 4: "p4" <i>(By 60 months)</i>
<p>PHD.i.4: Transfers object from one hand to the other.</p> <p>PHD.i.5: Grasps and releases object using entire hand.</p>	<p>PHD.mi.4: Coordinates the use of arms, hands and fingers to accomplish tasks (drinks from a bottle or cup by self, holds a spoon).</p> <p>PHD.mi.5: Coordinates eye-hand movements, such as putting things in a box.</p>	<p>PHD.t.4: Coordinates the use of arms, hands and fingers to accomplish more complex tasks (e.g., uses a spoon to scoop up food and bring it to mouth, uses scissors to snip small cuts on a piece of paper).</p>	<p>PHD.p3.2: Uses classroom and household tools independently and with eye-hand coordination to carry out more complex activities (e.g., uses fork and spoon to eat, manages large buttons, uses scissors to cut out simple shapes).</p>	<p>PHD.p4.4: With fluency and accuracy uses classroom and household tools independently and with eye-hand coordination to carry out activities (e.g., uses scissors to cut out shapes, zips, snaps and buttons to dress self).</p>

Communication and Literacy: Writing

Text types and purposes

Young infant: “i” <i>(By 8 months)</i>	Mobile infant: “mi” <i>(By 18 months)</i>	Toddler: “t” <i>(By 36 months)</i>	Pre 3: “p3” <i>(By 48 months)</i>	Pre 4: “p4” <i>(By 60 months)</i>
<p>CL.W.i.1: Shows ability to transfer and manipulate an object with hands (e.g., grasps a rattle, lets go of it and tries to grasp it again).</p> <p>CL.W.i.2: Grasps objects using entire hand.</p>	<p>CL.W.mi.1: Picks up objects between thumb and finger (i.e., pincer grasp).</p> <p>CL.W.mi.2: Uses a full-hand grasp to hold a writing tool to make scribbles.</p>	<p>CL.W.mi.1: Picks up objects between thumb and finger (i.e., pincer grasp).</p> <p>CL.W.mi.2: Uses a full-hand grasp to hold a writing tool to make scribbles.</p>	<p>CL.W.p3.1: Uses drawing, scribbling, letter-like forms, random letter strings and/or dictation to express thought and ideas</p>	<p>CL.W.p4.1: Uses a combination of drawing, dictating or emergent writing to express thoughts and ideas.</p> <p>CL.W.p4.2: Recognizably writes a majority of the letters in their name.</p>

Production and Distribution of Writing

Young infant: “i” <i>(By 8 months)</i>	Mobile infant: “mi” <i>(By 18 months)</i>	Toddler: “t” <i>(By 36 months)</i>	Pre 3: “p3” <i>(By 48 months)</i>	Pre 4: “p4” <i>(By 60 months)</i>
N/A	N/A	N/A	<p>CL.W.p3.2: Uses consistent marks to represent name when writing.</p> <p>CL.W.p3.3: With guidance and support, imitates shapes and strokes.</p> <p>CL.W.p3.4: With guidance and support, explores a variety of digital tools to express ideas (e.g., asks for help searching the internet for pictures of animals to illustrate a book “My Favorite Animals”).</p>	<p>CL.W.p4.2: Recognizably writes a majority of the letters in their name.</p> <p>CL.W.p4.3: With guidance and support, responds to questions and suggestions and adds details to drawings or emergent writing as needed.</p> <p>CL.W.p4.4: With guidance and support, explores a variety of digital tools to produce and publish emergent writing (e.g., uses the class camera to record the growth of the class garden; asks for help searching the internet for pictures of animals to illustrate a book or directions for a task).</p>

KANSAS HANDWRITING CURRICULAR STANDARDS

Anchor Standards for Handwriting: Kindergarten to Sixth Grade

The K–6 standards on the following pages define what students should understand and do by the end of each grade level. The anchor and grade-specific standards are necessary complements - the former providing broad standards, the latter providing additional specificity. Together, these define the skills and understandings that all students should demonstrate when producing handwritten text.

Anchor Standards for Handwriting

Form and Production

1. Demonstrate an understanding of the organization and basic features of manuscript writing.
2. Demonstrate an understanding of organization and basic features of cursive writing.

Automaticity

3. Write with sufficient flow, ease and pace to support automaticity.

Handwriting Application

4. Develop a handwriting style to facilitate learning in all content areas.

KANSAS HANDWRITING CURRICULAR STANDARDS

Standards for Grades Kindergarten to Sixth Grade

Anchor Standard: Form and Production

1. Demonstrate an understanding of the organization and basic features of manuscript writing.

Kindergarten	First Grade	Second Grade	Third Grade	Fourth Grade	Fifth Grade	Sixth Grade
<p>1. Demonstrate an understanding of the organization and basic features of manuscript writing.</p> <p>a. Use a functional pencil grasp that facilitates legible writing.</p> <p>b. Form¹ manuscript lines (line, slant, curve, circle, cross).</p> <p>c. Form² from a model upper and lowercase letters with left-to-right and top-to-bottom progression, with proportion, spacing and some reversals.</p> <p>d. Form many upper and lowercase letters with line awareness.</p>	<p>1. Demonstrate an understanding of the organization and basic features of manuscript writing.</p> <p>a. Use a functional pencil grasp that facilitates legible writing.</p> <p>b. Previously addressed in kindergarten.</p> <p>c. Form² and/or produce³ all upper and lowercase letters with left-to-right and top-to-bottom progression, with proportion, spacing and minimal reversals.</p> <p>d. Form and/or produce all upper and lowercase</p>	<p>1. Demonstrate an understanding of the organization and basic features of manuscript writing.</p> <p>a. Use a functional pencil grasp that facilitates legible writing.</p> <p>b. Previously addressed in kindergarten.</p> <p>c. Produce³ all uppercase and lowercase manuscript letters with left-to-right and top-to-bottom progression, with proportion, spacing and minimal reversals.</p> <p>d. Produce all uppercase and</p>	<p>1. Maintain legible production of words, sentences and numbers with proportion and spacing using manuscript writing.</p>	<p>1. Maintain legible production of manuscript writing with proportion and spacing.</p>	<p>1. Maintain legible production of manuscript writing with proportion and spacing.</p>	<p>Addressed in K-5.</p>

¹ to construct the written character shape and structure with models
² to construct the written character shape and structure with models
³ to construct the written character's shape and structure from memory

Kindergarten	First Grade	Second Grade	Third Grade	Fourth Grade	Fifth Grade	Sixth Grade
<p>e. Form from a model numbers with left-to-right and top-to-bottom progression, with proportion, spacing and minimal reversals.</p> <p>f. With prompting and support, form words and numbers with appropriate spacing.</p>	<p>letters with line awareness.</p> <p>e. Form and/or produce numbers with left-to-right and top-to-bottom progression, with proportion, spacing and minimal reversals.</p> <p>f. Form and/or produce words, sentences and numbers with appropriate spacing.</p>	<p>lowercase letters with line awareness.</p> <p>e. Produce numbers with left-to-right and top-to-bottom progression, with proportion, spacing and minimal reversals.</p> <p>f. Produce words, sentences and numbers with appropriate spacing.</p>				

Anchor Standard: Form and Production

2. Demonstrate an understanding of the organization and basic features of cursive writing.

Kindergarten	First Grade	Second Grade	Third Grade	Fourth Grade	Fifth Grade	Sixth Grade
Begins in third grade.	Begins in third grade.	Begins in third grade.	<p>2. Demonstrate an understanding of the organization and basic features of cursive writing.</p> <p>a. Form⁴ basic cursive lines (e.g. undercurve, downcurve, overcurve, slant).</p> <p>b. Form⁴ joinings to connect letters, maintaining proportion of letters to joinings.</p> <p>c. Form uppercase and lowercase cursive letters with proportion.</p> <p>d. Form letters in cursive using consistent slant.</p> <p>e. Form many upper and lowercase letters with line awareness.</p> <p>f. Form cursive words with appropriate spacing between letters, and form sentences with appropriate spacing between words.</p>	2. Form ⁴ and/or produce words and sentences with proportion and spacing using cursive writing.	2. Produce ⁵ legible cursive writing with proportion and spacing.	Addressed K-5.

⁴ to construct the written character shape and structure with models

⁵ to construct the written character's shape and structure from memory

Anchor Standard: Automaticity

3. Write with sufficient flow⁶, ease⁷, and pace⁸ to support automaticity⁹.

Kindergarten	First Grade	Second Grade	Third Grade	Fourth Grade	Fifth Grade	Sixth Grade
3. Write with sufficient flow and ease to support automaticity.	3. Write with sufficient flow, ease and pace to support automaticity.	3. Write with sufficient flow, ease and pace to support automaticity.	3. Write with sufficient flow, ease and pace to support automaticity.	3. Write with sufficient flow, ease and pace to support automaticity.	3. Write with sufficient flow, ease and pace to support automaticity.	3. Write with sufficient flow, ease and pace to support automaticity
*Manuscript	*Manuscript	*Manuscript	*Cursive	*Cursive	*Cursive	*Hybrid

Anchor Standard: Handwriting Application

4. Develop a handwriting style to facilitate learning in all content areas.

Kindergarten	First Grade	Second Grade	Third Grade	Fourth Grade	Fifth Grade	Sixth Grade
Begins in sixth grade.	Begins in sixth grade.	Begins in sixth grade.	Begins in sixth grade.	Begins in sixth grade.	Begins in sixth grade.	4. Adopt a legible style with proper proportion and spacing.

⁶ the process of the pencil moving across the page in smooth and fluid motions

⁷ the ability to access and retrieve written characters effortlessly

⁸ the rate of production

⁹ the ability to do things without occupying the mind with the low-level details required, allowing it to become an automatic response pattern or habit

KANSAS HANDWRITING CURRICULAR STANDARDS

Standards for Grades Kindergarten to Second Grade

Anchor Standard: Form and Production

1. Demonstrate an understanding of the organization and basic features of manuscript writing.

Kindergarten	First Grade	Second Grade
<p>1. Demonstrate an understanding of the organization and basic features of manuscript writing.</p> <ul style="list-style-type: none"> a. Use a pencil grasp that facilitates legible writing b. Form basic manuscript lines (line, slant, curve, circle). c. Form from a model upper and lowercase letters with left-to-right and top-to-bottom progression, with proportion, spacing and some reversals. d. Form many upper and lowercase letters with line awareness. e. Form from a model numbers with left-to-right and top-to-bottom progression, with proportion, spacing and minimal reversals. f. With prompting and support, form words and numbers with appropriate spacing. 	<p>1. Demonstrate an understanding of the organization and basic features of manuscript writing.</p> <ul style="list-style-type: none"> a. Use a pencil grasp that facilitates legible writing. b. Previously addressed in kindergarten. c. Form and/or produce all uppercase and lowercase letters with left-to-right and top-to-bottom progression, with proportion, spacing and minimal reversals. d. Form and/or produce all uppercase and lowercase letters with line awareness. e. Form and/or produce numbers with left-to-right and top-to-bottom progression, with proportion, spacing and minimal reversals. f. Form and/or produce words, sentences and numbers with appropriate spacing. 	<p>1. Demonstrate an understanding of the organization and basic features of manuscript writing.</p> <ul style="list-style-type: none"> a. Use a pencil grasp that facilitates legible writing. b. Previously addressed in kindergarten. c. Produce all uppercase and lowercase manuscript letters with left-to-right and top-to-bottom progression, with proportion, spacing and minimal reversals. d. Produce all uppercase and lowercase letters with line awareness. e. Produce numbers with left-to-right and top-to-bottom progression, with proportion, spacing and minimal reversals. f. Produce words, sentences and numbers with appropriate spacing.

2. Demonstrate an understanding of the organization and basic features of cursive writing.

Kindergarten	First Grade	Second Grade
Begins in third grade.	Begins in third grade.	Begins in third grade.

Anchor Standard: Automaticity

3. Write with sufficient flow, ease, and pace to support automaticity.

Kindergarten	First Grade	Second Grade
3. Write with sufficient flow and ease to support automaticity.	3. Write with sufficient flow and ease to support automaticity.	3. Write with sufficient flow and ease to support automaticity.
*Manuscript	*Manuscript	*Manuscript

Anchor Standard: Handwriting Application

4. Develop a handwriting style to facilitate learning in all content areas.

Kindergarten	First Grade	Second Grade
Begins in sixth grade.	Begins in sixth grade.	Begins in sixth grade.

KANSAS HANDWRITING CURRICULAR STANDARDS

Standards for Third Grade to Sixth Grade

Anchor Standard: Form and Production

1. Demonstrate an understanding of the organization and basic features of manuscript writing.

Third Grade	Fourth Grade	Fifth Grade	Sixth Grade
1. Maintain legible production of words, sentences and numbers with proportion and spacing using manuscript writing.	1. Maintain legible production of manuscript writing with proportion and spacing.	1. Maintain legible production of manuscript writing with proportion and spacing.	Addressed in K-5.

2. Demonstrate an understanding of the organization and basic features of cursive writing.

Third Grade	Fourth Grade	Fifth Grade	Sixth Grade
<p>2. Demonstrate an understanding of the organization and basic features of cursive writing.</p> <ul style="list-style-type: none"> a. Form basic cursive lines (e.g. undercurve, downcurve, overcurve, slant). b. Form joinings to connect letters, maintaining proportion of letters to joinings. c. Form uppercase and lowercase cursive letters with proportion. d. Form letters in cursive using consistent slant. e. Form many uppercase and lowercase letters with line awareness. f. Form cursive words with appropriate spacing between letters. g. Form sentences with appropriate spacing between words and paragraphs. 	2. Form words and sentences with proportion and spacing using cursive writing.	2. Produce legible cursive writing with proportion and spacing.	Addressed in K-5.

Anchor Standard: Form and Production

3. Write with sufficient flow, ease, and pace to support automaticity.

Third Grade	Fourth Grade	Fifth Grade	Sixth Grade
3. Write with sufficient flow and ease to support automaticity. *Cursive	3. Write with sufficient flow and ease to support automaticity. *Cursive	3. Write with sufficient flow and ease to support automaticity. *Cursive	3. Write with sufficient flow, ease and pace to support automaticity. *Hybrid

Anchor Standard: Handwriting Application

4. Develop a handwriting style to facilitate learning in all content areas.

Third Grade	Fourth Grade	Fifth Grade	Sixth Grade
Begins in sixth grade.	Begins in sixth grade.	Begins in sixth grade.	4. Adopt a legible handwriting style with proper proportion and spacing.

KANSAS HANDWRITING CURRICULAR STANDARDS

Appendix

A: Glossary

Automaticity: The ability to do things without occupying the mind with the low-level details required, allowing it to become an automatic response pattern or habit.

Cursive: (Handwriting) in flowing strokes with the letters joined together.

Demonstrate: To clearly show and display knowledge of handwriting.

Ease: The ability to access and retrieve written characters effortlessly.

Flow: The process of the pencil moving across the page in smooth and fluid motions.

Form: To construct the written character shape and structure with models.

Handwriting: Writing done by hand.

Manuscript: Letters that are written that aren't joined together to form words as opposed to cursive letters, which are joined together to create words.

Pace: The rate of production.

Print: Use a pencil or pen to place letters on paper to form words that aren't joined.

Produce: To construct the written character's shape and structure from memory.

Proportion: The equal distribution of the width, height and spacing of written characters on a variety of materials.

Scaffolding: Used by teachers to move students beyond their current developmental stage or skill set and into progressively more difficult tasks.

B: Shifts in 2019 Handwriting Standards

Working memory and production

Humans have had a spoken language for thousands of years. Putting that language into print has been a more recent endeavor. When tasked with not only producing the written word, but also reading it, McCutchen (1988) states cognitive overload in young children is likely due to the slow, laborious handwriting skills of beginning writers. Knowing how to produce letters automatically allows for writing to be quick, smooth and effortless. A lack of automaticity results in students focusing on the recall of letter production, rather than the process of conveying ideas (Bourdin and Fayol, 1994; Berninger, Vaughan, Graham, Abbott, Abbott and Rogan, 1997).

Forming versus producing letters

Research confirms that writing a letter from memory and the self-regulation to produce that letter cements letter recognition for reading. Moreover, comparing and contrasting how similar letters are formed impact letter recognition and enhance automaticity in reading and writing. Self-regulation in writing allows children to gain an understanding of which perceptual properties are crucial for identity and which aren't. James and Engelhardt (2012) contend different instances of the same letter produced by a child have distinct variances. However, the children can still accurately recognize these as intended letters which may be a crucial component of emerging letter recognition and understanding. The experience of producing accurate copies of letters by tracing or

typing doesn't contribute to the child's knowledge of letters like the experience of printing less accurate copies of letters does. Children evaluating their own writing to determine best formed letters and teachers providing explicit feedback are imperative to legibility and automaticity in writing. Therefore, the 2019 Kansas Handwriting committee wanted to focus instruction through the progression of forming letters from copying to producing letters and allowing self-regulation since text transcription skills require considerable cognitive effort for young children (Graham and Harris, 2005; McCutchen, 1988).

The Hybrid: Combining Manuscript and Cursive

As students become acquainted with both manuscript and cursive handwriting, they are better able to determine their preference for the handwriting style (manuscript, cursive or manuscript-cursive hybrid) that best serves them in taking notes, handwriting in-class assignments, and performing on high-stakes tests. The combination of manuscript and cursive results in greater handwriting fluency and students' legibility was equal to, or superior to, a manuscript-only or cursive-only style. Once students develop a personal handwriting style, their style remains consistent 92% of the time; and the application of their handwriting development assists them in producing texts with greater speed (up to three times greater), automaticity, and most importantly, legibility (Graham, Weintraub, and Berninger, 1998).

C: Selected Bibliography

American College Testing. (2011). Scoring guidelines. Retrieved from <http://www.actstudent.org/writing/scores/guidelines.html>

Barrera III, M.T., Rule, A.C. and Diemart, A. (2001). The Effect of Writing with Computers Versus Handwriting on the Writing Achievement of First-Graders. *Information Technology in Childhood Education Annual, 2001(1)*, 215–229.

Berninger, V.W. (2012). Evidence-based, developmentally appropriate writing skills K to 5: Teaching the orthographic loop of working memory to write letters so developing writers can spell words and express ideas. Paper presented at Handwriting in the 21st Century? An Educational Summit, Washington, D.C., Jan. 23, 2012.

Berninger, V.W., Abbott, R.D., Abbott, S.P., Graham, S., and Richards, T. (2002). Writing and Reading: Connections Between Language by Hand and by Eye. *Journal of Learning Disabilities, 35*, 39–56.

Berninger, V., Abbott, R., Jones, J., Wolf, B., Gould, L., Anderson-Youngstrom, M., Shimada, S. and Apel, K. (2006). Early Development of Language by Hand: Composing, Reading, Listening, and Speaking Connections; Three Letter-Writing Modes; and Fast Mapping in Spelling. *Developmental Neuropsychology, 29(1)*, pp.61-92.

Berninger, V.W., Abbott, R.D., Augsburger, A., and Garcia, N. (2009). Comparison of Pen and Keyboard Transcription Modes in Children With and Without Learning Disabilities. *Learning Disability Quarterly, 32(3)*, 11–18.

Cahill, S. (2009). Where Does Handwriting Fit In? *Intervention in School and Clinic, 44(4)*, pp.223-228.

Conti, G. E. Handwriting characteristics and the prediction of illegibility in third- and fifth-grade students. Paper presented at Handwriting in the 21st Century? An Educational Summit, Washington, D.C., Jan. 23, 2012.

Cook, C., and Bennett, L. (2007). Does Using a Computer Disturb the Organization of Children's Writing? *British Journal of Developmental Psychology, 25*, 313–321.

Cutler, L., and Graham, S. (2008). Primary Grade Writing Instruction: A National Survey. *Journal of Educational Psychology, 100(4)*, 907–919.

Denton, P.L., Cope, S., and Moser, C. (2006). The Effects Of Sensorimotor-based Intervention Versus Therapeutic Practice on Improving Handwriting Performance in 6- to 11-Year-Old Children. *American Journal of Occupational Therapy, 60*, 16–27.

Goldberg, A., Russell, M., and Cook, A. (2003). The Effect of Computers on Student Writing: A Meta-analysis of Studies from 1992 to 2002. *Journal of Technology, Learning, and Assessment, 2(1)*, 3–50.

Grabowski, J. (2008). The Internal Structure of University Students' Keyboard Skills. *Journal of Writing Research, 1(1)*, 27–52.

Graham, S., and Harris, K. (2005). Improving the Writing Performance of Young Struggling Writers: Theoretical and Programmatic Research from the Center on Accelerating Student Learning. *Journal of Special Education, 39(1)*, 24–26.

Graham, S., and Harris, K. (2002). Prevention and Intervention for Struggling Writers. In M. R. Shinn (Ed.), *Interventions for Academic and Behavior Problems II: Preventative and Remedial Approaches* (pp. 589–610). Washington, D.C.: National Association of School Psychologists.

Graham, S., Harris, K., Mason, L., Fink-Chorzempa, B., Moran, S. and Saddler, B. (2010). How Do Primary Grade Teachers Teach Handwriting? In: *Handwriting Research: Impact on the Brain and Literacy Development*. Columbus: Zaner-Bloser, pp.185, 189, 191.

Graham, S., & Weintraub, N. (1996). A Review of Handwriting Research: Progress and Prospects From 1980 to 1994. *Educational Psychology Review, 8*, 7–87.

James, K.H. (2012). The neural correlates of handwriting and its effect on reading acquisition. Paper presented at Handwriting in the 21st Century? An Educational Summit, Washington, D.C., Jan. 23, 2012.

James, K.H. (2017). The Importance of Handwriting Experience on the Development of the Literate Brain. *Current Directions in Psychological Science, 26*(6), pp.502-508.

James, K.H., and Atwood, T.P. (2009). The Role of Sensorimotor Learning in the Perception of Letter-like Forms: Tracking the Causes of Neural Specialization for Letters. *Cognitive Neuropsychology, 26*(1), 91–110.

James, K. and Engelhardt, L. (2012). The Effects of Handwriting Experience on Functional Brain Development in Pre-literate Children. *Trends in Neuroscience and Education, 1*(1), pp.32-42.

James, K.H., and Gauthier, I. (2006). Letter Processing Automatically Recruits a Sensory-Motor Brain Network. *Neuropsychologia, 44*, 2937–2949.

James, K.H., Wong, C-N, and Jobard, G. (2010). The Case for Letter Expertise. In Gauthier, I., Bub, D., & Tarr, M.J. (Eds.), *Perceptual Expertise: Bridging Brain and Behavior* (305–331). New York, New York, Oxford University Press.

Jones, D., and Christensen, C. A. (1999). The Relationship Between Automaticity in Handwriting and Students' Ability to Generate Written Text. *Journal of Educational Psychology, 91*, 44–49.

Longcamp, M., Zerbato-Poudou, M., and Velay, J. (2005). The Influence of Writing Practice on Letter Recognition in Preschool Children: A Comparison Between Handwriting and Typing. *Acta Psychologica, 119*, 67–79.

Longcamp, M., Boucard, C., Gilhodes, J., Anton, J., Roth, M., Nazarian, B. and Velay, J. (2008). Learning Through Hand- or Typewriting Influences Visual Recognition of New Graphic Shapes: Behavioral and Functional Imaging Evidence. *Journal of Cognitive Neuroscience, 20*(5), pp.802-815.

McCutchen, D. (1988). Functional Automaticity in Children's Writing: A problem of Metacognitive Control. *Written Communication, 5*, 306–324.

National Assessment of Educational Progress. (2011, December 7). NAEP writing computer-based assessment. Retrieved from <http://nces.ed.gov/nationsreportcard/writing/cba.asp>

National Governors Association Center for Best Practices, Council of Chief State School Officers. (2010). *Common Core State Standards for English Language Arts: Introduction*. Washington, DC.

National Institute of Child Health and Human Development (NICHD). (2000). Report of the National Reading Panel: Teaching Children to Read: An Evidence-Based Assessment of the Scientific Research Literature on Reading and its Implications for Reading Instruction. (NIH Publication No. 004769). Washington, D.C.: U. S. Government Printing Office.

Peeverly, S. (2012). The relationship of transcription speed and other cognitive variables to note-taking and test performance. Paper presented at Handwriting in the 21st Century? An Educational Summit, Washington, D.C., Jan. 23, 2012.

Silvernail, D. L., Pinkham, C. A., Wintle, S. E., Walker, L. C., and Bartlett, C. L. (2011). A middle school one-to-one laptop program: The Maine experience. Center for Education Policy, Applied Research and Evaluation, University of Southern Maine. Retrieved from <http://www.usm.maine.edu/cepare/maine-learning-technology-initiative-mlti>

Suhr, K. A., Hernandez, D. A., Grimes, D., and Warschauer, M. (2010). Laptops and Fourth-Grade Literacy: Assisting the Jump Over the Fourth-Grade Slump. *Journal of Technology, Learning, and Assessment*, 9, 4–45.

Vander Hart, N., Fitzpatrick, P., and Cortesa, C. (2010). In-Depth Analysis of Handwriting Curriculum and Instruction in Four Kindergarten Classrooms. *Reading and Writing*, 23, 673–399.

Warschauer, M. (2008). Laptops and Literacy: A Multi-site Case Study. *Pedagogies: An International Journal*, 3, 52–67.

Zaner-Bloser. (2012). Written-language production standards for handwriting and keyboarding. Retrieved from http://www.hw21summit.com/media/zb/hw21/Written-Language_ProductionStandards.pdf

D: History of 2013 Handwriting Standards Committee

In 2010 with the release of the Common Core Standards, the Kansas State Board of Education researched handwriting and facilitated discussions about instructional practices. In 2012, after reviewing a state-wide survey about handwriting instruction and research from the National Association of State Boards of Education, the State Board of Education commissioned a set of Kansas Handwriting Standards be written to provide direction for Kansas educators. By 2013, the first standards in handwriting encompassing manuscript and cursive writing were approved. The State Board of Education believed that cursive handwriting had an important place in the instructional practice of every school's curriculum. Research supports the role that handwriting instruction plays in the cognitive development of children, and this activity is even more important in an increasingly digital environment. The Board strongly encourages educators to ensure that all students can write legibly in cursive and comprehend text written in this manner as it remains an important student skill.

The 2013 Kansas Handwriting Standards Committee assembled the first set of handwriting standards for the children of Kansas. The committee was supported by the Kansas State Department of Education (KSDE), Central Comprehensive Center (C3) and Center on Enhancing Early Learning Outcomes (CEELO). This committee was honored to receive guidance from Dr. Dorothy Strickland, the Samuel DeWitt Proctor Professor of Education at Rutgers University.

The 2013 committee incorporated work from the Handwriting for 21st Century Educational Summit in Washington, D.C., on Jan. 23, 2012. This summit further crystallized the need to give handwriting and keyboarding a set of benchmarked, developmentally appropriate handwriting standards that provide all students with equal access to this foundational skill. The Kansas Handwriting Standards Committee used the national standards for written-language production as a starting point to develop the Kansas Handwriting Standards as they offered developmentally appropriate, research-based indicators to integrate handwriting into the curriculum.¹⁰ (More information about the summit and the research presented there is available online at www.hw21summit.com.)

The Keyboarding standards have been housed within the Library Information and Technology standards since 2013, but they have since moved to the Computer Science standards in 2019.

¹⁰ Much of the content of this document is borrowed, with permission, from Zaner-Bloser's *Written-Language Production Standards for Handwriting and Keyboarding* (2012).



900 S.W. Jackson Street, Suite 600
 Topeka, Kansas 66612-1212
 (785) 296-3203
www.ksde.org

MISSION

To prepare Kansas students for lifelong success through rigorous, quality academic instruction, career training and character development according to each student's gifts and talents.

VISION

Kansas leads the world in the success of each student.

MOTTO

Kansans Can

SUCCESS DEFINED

A successful Kansas high school graduate has the

- Academic preparation,
- Cognitive preparation,
- Technical skills,
- Employability skills and
- Civic engagement

to be successful in postsecondary education, in the attainment of an industry recognized certification or in the workforce, without the need for remediation.

OUTCOMES

- Social-emotional growth measured locally
- Kindergarten readiness
- Individual Plan of Study focused on career interest
- High school graduation
- Postsecondary success

2019 KANSAS STATE BOARD OF EDUCATION

CHAIRMAN
DISTRICT 8

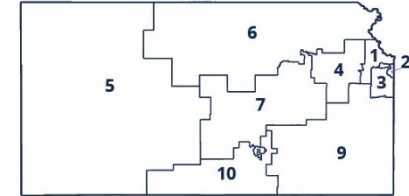


Kathy Busch
kbusch@ksde.org

VICE CHAIR
DISTRICT 1



Janet Waugh
jwaugh@ksde.org



BOARD MEMBERS

DISTRICT 2



Steve Roberts
sroberts@ksde.org

DISTRICT 3



Michelle Dombrosky
mdombrosky@ksde.org

DISTRICT 4



Ann E. Mah
amah@ksde.org

DISTRICT 5



Jean Clifford
jclifford@ksde.org

LEGISLATIVE LIAISON
DISTRICT 6



Dr. Deena Horst
dhorst@ksde.org

DISTRICT 7



Ben Jones
bjones@ksde.org

LEGISLATIVE LIAISON
DISTRICT 9



Jim Porter
jporter@ksde.org

DISTRICT 10



Jim McNiece
jmcniece@ksde.org

KANSAS STATE DEPARTMENT OF EDUCATION

COMMISSIONER OF EDUCATION



Dr. Randy Watson

DEPUTY COMMISSIONER
Division of Fiscal and Administrative Services



Dale M. Dennis

DEPUTY COMMISSIONER
Division of Learning Services



Dr. Brad Neuenswander

The Kansas State Board of Education does not discriminate on the basis of race, color, national origin, sex, disability or age in its programs and activities and provides equal access to any group officially affiliated with the Boy Scouts of America and other designated youth groups. The following person has been designated to handle inquiries regarding the nondiscrimination policies: KSDE General Counsel, Office of General Counsel, KSDE, Landon State Office Building, 900 S.W. Jackson, Suite 102, Topeka, KS 66612, (785) 296-3201.

For more information, contact:

English Language Arts Consultant
(785) 296-2144

<https://community.ksde.org/Default.aspx?tabid=5280>



Kansas State Department of Education
900 S.W. Jackson Street, Suite 102
Topeka, Kansas 66612-1212

(785) 296-3201

www.ksde.org