Research Summary:

Language and Literacy Development (LLD) Domain in the DRDP-K (2015) and KIDS (2015) Kindergarten Assessment Instruments

The Language and Literacy Development (LLD) domain assesses the progress of all children in developing foundational language and literacy skills. These skills can be demonstrated in any language and in any mode of communication. The LLD measures should be completed for all children, including those who are dual language learners. Language and literacy skills in a child's first language form the foundation for learning English. Therefore, dual language learners may demonstrate knowledge and skills in their home language, in English, or in both languages.

LLD 1: Understanding Language (Receptive)

Research indicates that children's ability to comprehend sentences with simple structure increases to more complex sentences, such as embedded clauses (Cohen Sherman & Lust, 1993). Children's ability to understand language is boosted by their pragmatic skills, i.e., using language appropriately in social situations. Comprehension of indirect or non-literal meaning of language begins in the preschool years (Eson & Shapiro, 1982). Even so, understanding figurative language (e.g., idioms) happens much later than the comprehension of the non-literal meaning of language (Spector, 1996), and this skill keeps developing up to the age of 17 (Nippold & Rudzinski, 1993).

All told, children's ability to understand language starts with simple vocabulary, phrases, and sentences, and moves forward to complex vocabulary, phrases, and sentences. The ability to comprehend literal meaning of language develops before the skills to comprehend non-literal and then figurative language.

LLD 2: Responsiveness to Language

Children's responses to utterances develop along the progression from nonverbal to verbal responses (Bishop, Chan, Hartely, & Weir, 2000). For example, compared to older children, younger children more frequently use nods or gestures to respond to adult solicitations (Bishop et al, 2000). Because children's responses to utterances depend on their receptive and expressive language, their ability to respond shows a similar developmental trajectory as the development of receptive and expressive language. Thus, with age, they develop the ability to respond to increasingly complex utterances and content, moving from one-step requests to multiple-step requests, from familiar topics to unfamiliar topics, and from concrete ideas to abstract ones (Holmburg, 1980; Mueller, Bleler, Krakow, Hegedus, & Cournoyer, 1977; Reuter & Yunlk, 1973).

LLD 3: Communication and Use of Language (Expressive)

Children's ability to communicate with others becomes increasingly more complex with age (Huttenlocher, Vasilyeva, Cymerman, & Levine, 2002). By kindergarten age "children are typically able to produce complex-compound sentences that include the conjoining of two sentences using *and* or *but* as well as clauses embedded within the sentences (e.g., 'I will go because she said to but I don't really want to') (Curenton & Justice, 2004)" (California Department of Education, 2010, pp. 76–77). They use utterances in the future tense around ages four to five (Gard, Gilman, & Gordon, 2012), and by six years of age they use the regular past tense (Valian, 2006; Rice, Wexler, & Redmond, 1999). As they grow older, their utterances continue developing into more sophisticated, complete, and adult-like structures (Nippold, 2007).

LLD 4: Reciprocal Communication and Conversation

Children's ability to communicate with others increases with age (Greenwod, Walker, Tood, & Hops, 1981). This increase in communication skills develops hand in hand with their expressive and receptive language. As their expressive and receptive language abilities improve, children ages five to six years become more capable of providing an increasing amount of information in order to maintain the topic of conversation, and build on and make inferences related to others' ideas (Bedrosian, 1985), and decrease the gap in verbal interaction (Dewart & Summers, 1997). They also develop increasingly sophisticated understanding of the pragmatics of communication, i.e., the social rules that govern the use of language and other communicative behaviors.

LLD 5: Interest in Literacy

Children's interest in literacy changes across time and with experience as they learn to value and understand the components of literacy. The transition to real reading involves changes not only in composition skills but also in concepts and appreciation about the nature of literacy (Snow, Burns, & Griffin, 1998). Interest in literacy involves curiosity and interest seeking behaviors; if something is interesting, children actively attend to it (Renninger & Wozniak, 1985; Silvia, 2008). The research literature has demonstrated that interested students interact with the object or text for its own sake and are likely to experience internalized effects similar to intrinsic reward (Hidi, 2006; Krapp, 2005). Hidi (2001) reviewed evidence demonstrating that interest in literacy has a strong positive influence on children's comprehension and recall.

The developmental progression of interest in literacy has been extensively studied by researchers such as Elizabeth Sulzby (1985). Her work showed that children's interest in literacy progresses from initially pointing and labeling pictures in a book, followed by initiating opportunities to share books, to "reading" a story through the illustrations, to telling the story using book language, and finally to reading conventionally using the text of a story.

An important transition is when children's choice of books to learn about new ideas and concepts is self-initiated (Cunningham & Zibulsky, 2014). This development represents an important shift in value and interest in literacy. Part of that developmental progression is when children's "reading" of stories changes from sounding like oral language to sounding like written language. This transition demonstrates a change in ideas from thinking of reading as spoken words to understanding that reading is recreated from written text that has special ways of wording that they choose to engage in (McGee & Richgels, 2012).

LLD 6: Comprehension of Age-Appropriate Text

Children's comprehension of text begins with simply describing or asking about events and objects presented in books in the preschool years. After simply describing events and objects, by age five they are able to demonstrate knowledge of main events, characters, settings, and problems. As their comprehension skills develop, they also increasingly think and talk about the order of events in stories and the relationship between cause and effect (Trabasso & Stein, 1997; Mandler & Johnson, 1977; Brown, 2008). Causal reasoning is a prerequisite for inferential thinking. Since inferential thinking is more sophisticated than causal reasoning and usually difficult for young children (Trabasso & Stein, 1997), this ability typically shows up much later than the literal comprehension of text. Metacognitive skills—the awareness and knowledge of one's own mental processes such that one can monitor, regulate, and direct oneself to a desired goal—develop around the age of

six years. Children demonstrate their metacognition for text comprehension in the later part of early reading development, by asking or answering questions to monitor their own comprehension.

LLD 7: Concepts of Print

The construct of "concepts about print" entails a number of concepts and ideas that the young child needs to acquire. These concepts include an understanding that print—the written words on the page—carries a message and that it is organized and read in a particular way. Initially, the young child learns the concept that a book is an object to handle and can be used to turn pages. To become able to independently read a book, children in the preschool years progress to developing an understanding that print goes from left to right and top to bottom on a page, and that a book has an upright orientation, and that the pages go from front to back. As they move into kindergarten, children learn that print carries a meaningful message and can be used to serve a variety of useful functions such as telling a story, listing items to get at the grocery store, and labeling items. By four to five years of age, children learn that, although pictures in books are meaningful, they understand that what we read are the printed words on the pages and that text represents spoken words that are written. By the end of kindergarten, children progress to more sophisticated understanding of print and recognize that words are made up of letters, separated by spaces, and that punctuation marks play a role in what we read.

LLD 8: Phonological Awareness

"'Phonological awareness' is generally defined as an individual's sensitivity to the sound (or phonological) structure of spoken language independent of meaning. Spoken language is made up of different phonological units that differ in their linguistic complexity. The phonological units include words, syllables, subsyllabic units (onsets, rimes), and individual sounds (phonemes)" (California Department of Education, 2010, p. 79). The developmental progression of phonological awareness skills starts from larger to successively smaller units of sound (Adams, 1990; Anthony et al., 2002; Anthony, Lonigan, Driscoll, Phillips, & Burgess, 2003; Blachman, 1994; Lane, Pullen, Eisele, & Jordan, 2002). Children's ability to perceive and manipulate sounds moves from larger (words, syllables) in preschool to increasingly smaller (phonemes) in kindergarten and to placement of the phonemes within a word (initial, final to medial) by the end of kindergarten. Tasks that assess or teach phonological awareness include identification tasks such as first-sound matching, synthesis tasks such as phoneme blending, and/or analysis tasks such as deleting phonemes. By the end of kindergarten children are typically able to perceive and manipulate initial phonemes in words (Anthony et al., 2003; Ehri & Roberts, 2006).

LLD 9: Letter and Word Knowledge

Children progress from initially identifying letters in their environment to a more specific and refined understanding of letter names and their corresponding sounds. Research suggests that children develop alphabetic knowledge at different rates depending upon their level of exposure to print. Justice, Pence, Bowles, and Wiggins (2006) demonstrated that the most common letter to learn was the first letter in a child's name. McBride-Chang (1999) found that most children learn uppercase letters and then fold in lowercase letter development with a knowledge of all of the letters of the alphabet by the end of kindergarten.

When studying letter-sound correspondences, Justice et al. (2006) showed that children who are at the early stage of pairing letters and sounds learn some letter-sound correspondences more readily than others. Letter names that provide a clue to the sound they represent are more readily acquired (for example, B /b/ overlap in sound), as compared to letter-sound patterns (e.g., F /f/) that do not overlap (Integrating Middle). Piasta, Purpura, and Wagner (2008) demonstrated that children are more likely to learn letter-sound

correspondences when the focus is on promoting the acquisition of letter names and sounds jointly, rather than focusing on letter-sound instruction alone. Finally, as children solidify their understanding of concepts of print and letter and word knowledge, they acquire the ability to assemble and dissemble the individual letter-sounds within words to decode.

LLD 10: Emergent Writing

Early writing plays a role in a child's later literacy achievement (Bloodgood, 1999; Both-de Vries & Bus, 2010; Molfese et al., 2011; Puranik, Lonigan, & Kim, 2011; Tolchinsky, 2001; Welsch, Sullivan, & Justice, 2003). A child's ability to write his or her name by kindergarten is one of the strongest predictors of later conventional literacy in elementary school, including spelling (Duncan et al., 2007; Lonigan, Schatschneider, & Westberg, 2008).

Writing is viewed as a major achievement on the road to literacy. It requires a complex, coordinated set of abilities that include memorization, recalling specific letter shapes, and the motoric skills needed to print legible letters in a correct sequence. Significantly, studies of writing across a variety of written language systems, including Dutch, Hebrew, and Spanish, demonstrate similarities in the conceptual and procedural development of young children's scribbles to the formation of legible letters to represent words (e.g., Ferriero & Teberosky, 1982; Treiman, Levin, & Kessler, 2007; Both-de Vries & Bus, 2010). According to Justice and Vukelich (2007) the developmental sequence of writing typically proceeds in five general stages: (1) drawing/scribbling; (2) letters/letter-like units; (3) beginning stages of invented spelling; (4) later stages of invented spelling; and (5) conventional spelling and writing.

Past and current findings indicate that one's own name is usually the first word a child writes well before mastering other, often simpler words (e.g., consonant-vowel-consonant words) (Both-deVries & Bus, 2010; Clay, 1975; Puranik & Lonigan, 2012). In fact, the landmark achievement of name writing is considered "the first indicator of a child's writing competence" (Puranik et al., 2011, p. 1) and a key stepping stone into the world of print (e.g., Bloodgood, 1999; Welsch et al., 2003). Children utilize the letters within their personal name in approximately 50% to 70% of their spellings of first words (Bloodgood, 1999; Gombert & Fayol, 1992). In a study of early orthographic development, Puranik and Apel (2010) showed that once preschool children learned to write 60% of letters (16/26), they reached a threshold needed to begin spelling simple words.

Writing has other benefits for learning the alphabetic principle and phonological awareness. For example, Longcamp, Zerbato-Poudou, and Velay (2004) assert the utility of a child's writing each letter shape by hand in the construction of alphabet knowledge, in particular visually discriminating between unique shapes. Findings from other studies highlight the bidirectional effect of "language by hand" (i.e., writing) in promoting both alphabet knowledge and phonological awareness (Berninger et al., 2006).

References: Language and Literacy Development (LLD)

- Adams, M. J. (1990). Beginning to read: Thinking and learning about print. Cambridge, MA: MIT Press.
- Anthony, J. L., Lonigan, C. J., Burgess, S. R., Driscoll, K., Phillips, B. M., & Cantor, B. G. (2002). Structure of preschool phonological sensitivity: Overlapping sensitivity to rhyme, words, syllables, and phonemes. *Journal of Experimental Child Psychology*, 82, 65–92.
- Anthony, J. L., Lonigan, C. J., Driscoll, K., Phillips, B. M., & Burgess, S. R. (2003). Preschool phonological sensitivity: A quasi-parallel progression of word structure units and cognitive operations. *Reading Research Quarterly*, 38, 470–487.
- Bedrosian, J. (1985). An approach to developing conversational competence. *School Discourse Problems*, 231–255.
- Bishop, D. V. M., Chan, J., Adams, C., Hartely, J., & Weir, F. (2000). Conversational responsiveness in specific language impairment: Evidence of disproportionate pragmatic difficulties in a subset of children. *Development and Psychopathology*, *12*, 177–199.
- Blachman, B. A. (1994). Early literacy acquisition: The role of phonological awareness. In G. P. Wallach & K. G. Butler (Eds.), Language learning disabilities in school-age children and adolescents: Some principles and applications (pp. 253–274). Merrill.
- Bloodgood, J. (1999). What's in a name? Children's name writing and literacy acquisition. *Reading Research Quarterly*, *34*, 342–367.
- Both-de Vries, A., & Bus, A. G. (2010). The proper name as starting point for basic reading skills. *Reading and Writing*, 23, 73–187.
- Brown, D. D. (2008). The use of causal connections by young children: Implications for school readiness. *NHSA Dialog*, *11*(1), 44–53.
- California Department of Education. (2010). Preschool learning foundations (Vol. 1). Sacramento, CA: Author.
- Clay, M. M. (1975). What did I write? Beginning writing behavior. Heinemann.
- Cohen Sherman, J., & Lust, B. (1993). Children are in control. Cognition, 46, 1-51.
- Cunningham, A. E. & Zibulsky, J. (2014). *Book smart: How to develop and support successful motivated readers*. New York, NY: Oxford University Press.
- Curenton, S., & Justice, L. M. (2004). Low-income preschoolers' use of decontextualized discourse: Literate language features in spoken narratives. *Language, Speech, and Hearing Services in Schools, 35*, 240–253.
- Dewart, H., & Summers, S. (1997). The pragmatics profile of communication skills in childhood. Windsor: NFER-Nelson.

- Duncan, G. J., Dowsett, C. J., Claessens, A., Magnuson, K., Huston, A. C., Klebanov, P., . . . & Japel, C. (2007). School readiness and later achievement. *Developmental Psychology*, 43(6), 1428.
- Ehri, L. C., & Roberts, T. (2006). The roots of learning to read and write: Acquisition of letters and phonemic awareness. In S. Neuman & D. Dickinson (Eds.), *Handbook of early literacy research* (Vol. 2, pp. 113–131). New York, NY: Guilford.
- Eson, M., & Shapiro, A. (1982). When 'don't' means 'do'. Pragmatics and cognitive development in understanding an indirect imperative. *First Language*, *3*, 83–91.
- Ferreiro, E., & Teberosky, A. (1982). Literacy before schooling. Exeter, NH: Heinemann.
- Gard, A., Gilman, L., & Gordon, J. (2012). Speech and language development chart (3rd ed.). Austin, TX: Pro-Ed.
- Gombert, J. E., & Fayol, M. (1992). Writing in preliterate children. Learning and Instruction, 2, 23–41.
- Greenwood, C. R., Walker, H. M., Todd, N. M., & Hops, H. (1981). Normative and descriptive analysis of preschool free play social interaction rates. *Journal of Pediatric Psychology*, *6*(4), 343–367.
- Hidi, S. (2001). Interest, Reading, and Learning: Theoretical and Practical Considerations. *Educational Psychology Review*, 13, 191-209.
- Hidi, S. (2006). Interest: A unique motivational variable. Educational Research Review, 1(2), 69–82.
- Holmburg, M. C. (1980). The development of social interchange patterns from 12 to 42 months. *Child Development*, *51*, 448–456.
- Huttenlocher, J., Vasilyeva, M., Cymerman, E., & Levine, S. (2002). Language input and child syntax. *Cognitive Psychology*, *45*(3), 337–374.
- Justice, L. M., Pence, K., Bowles, R. B., & Wiggins, A. (2006). An investigation of four hypotheses concerning the order by which 4-year-old children learn the alphabet letters. *Early Childhood Research Quarterly, 21*, 374–389.
- Justice, L., & Vukelich, C. (2007). *Achieving excellence in preschool literacy instruction*. New York, NY: Guilford Press.
- Krapp, A. (2005). Basic needs and the development of interest and intrinsic motivational orientations. *Learning and Instruction*, *15*(5), 381–395.
- Lane, H. B., Pullen, P. C., Eisele, M. R., & Jordan, L. (2002). Preventing reading failure: Phonological awareness assessment and instruction. *Preventing School Failure*, 46(3), 101–111.
- Longcamp, M., Zerbato-Poudou, M., & Velay, J. (2004). The influence of writing practice on letter recognition in preschool children: A comparison between handwriting and typing. *Acta Psychologica*, *119*, 67–79.

- Lonigan, C. J., Schatschneider, C., & Westberg, L. (2008). Identification of children's skills and abilities linked to later outcomes in reading, writing, and spelling. In National Center for Family Literacy, *Developing early literacy: Report of the National Early Literacy Panel* (pp. 55–106). Louisville, KY: National Center for Family Literacy.
- Mandler, J. & Johnson, N. (1977). Remembrance of things parsed: Story structure and recall. *Cognitive Psychology*. *9*, 111–151.
- McBride-Chang, C. (1999). The ABCs of the ABCs: The development of letter-name and letter-sound knowledge. *Merrill-Palmer Quarterly*, *45*, 285–308.
- McGee, L. M. & Richgels, D. J. (2012). *Literacy's beginnings: Supporting young readers and writers* (6th ed.). Needham, MA: Allyn and Bacon.
- Molfese, V. J., Beswick, J., Jacobi-Vessels, J., Armstrong, N., Culver, B., White, J., & Molfese, D. (2011). Evidence of alphabetic knowledge in writing: Connections to letter and word identification skills in preschool and kindergarten. *Reading and Writing*, *24*, 133–150.
- Mueller, E., Bleler, M., Krakow, J., Hegedus, K., & Cournoyer, P. (1977). The development of peer verbal interaction among two year old boys. *Child Development*, *48*, 284–287.
- Nippold, M. A. (2007). *Later language development: School-age children, adolescents, and young adults* (3rd ed.). Austin, TX: Pro Ed.
- Nippold, M., & Rudzinski, M. (1993). Familiarity and transparency in idiom explanation: A developmental study of children and adolescents. *Journal of Speech and Hearing Research*, *36*, 728–737.
- Piasta, S. B., Purpura, D. J., & Wagner, R. K. (2010). Fostering alphabet knowledge development: A comparison of two instructional approaches. *Reading and Writing*, 23, 607–626.
- Puranik, C., & Apel, K. (2010). Effect of assessment task and letter writing ability on preschool children's spelling performance. *Assessment for Effective Intervention*, *36*(1), 45–56.
- Puranik, C., & Lonigan, C. (2012). Name writing proficiency, not length of name, is associated with preschool children's emergent literacy skills. *Early Childhood Research Quarterly, 27,* 284–294. doi:10.1016/j.ecresq.2011.09.003
- Puranik, C. S., Lonigan, C. J., & Kim, Y. S. (2011). Contributions of emergent literacy skills to name writing, letter writing, and spelling in preschool children. *Early Childhood Research Quarterly*, *4*, 465–474.
- Renninger, K. A., & Wozniak, R. H. (1985). Effect of interest on attentional shift, recognition, and recall in young children. *Developmental Psychology*, *21*(4), 624–632.
- Reuter, J., & Yunlk, G. (1973). Social interaction in nursery schools. Developmental Psychology, 9, 319–325.

- Rice, M. L., Wexler, K., & Redmond, S. M. (1999). Grammaticality judgments of an extended optional infinitive grammar: Evidence from English-speaking children with specific language impairment. *Journal of Speech, Language, and Hearing Research*, 42(4), 943–961.
- Silvia, P. J. (2008). Interest—The curious emotion. Current Directions in Psychological Science, 17(1), 57–60.
- Snow, C. E., Burns, M. S., & Griffin, P. (Eds.) (1998). *Preventing reading difficulties in young children*. Washington, DC: National Academy Press.
- Spector, C. (1996). Children's comprehension of idioms in the context of humor. *Language, Speech and Hearing Services in Schools, 27*, 307–313.
- Sulzby, E. (1985). Children's emergent reading of favorite story books: A developmental study. *Reading Research Quarterly, 20,* 458–481.
- Tolchinsky, L. (2001). *Developmental aspects in learning to write.* Dordrecht, The Netherlands: Kluwer Academic Publishers.
- Trabasso, T., & Stein, N. L. (1997). Narrating, representing, and remembering event sequences. In P. W. van den Broek, P. J. Bauer, & T. Bourg (Eds.), *Developmental spans in event comprehension and representation* (pp. 237–270). Mahwah, NJ: Erlbaum.
- Treiman, R., Levin, I., & Kessler, B. (2007). Learning of letter names follows similar principles across languages: Evidence from Hebrew. *Journal of Experimental Child Psychology*, *96*(2), 87–106.
- Valian, V. (2006). Young children's understanding of present and past tense. *Language Learning and Development*, 2(4), 251–276.
- Welsch, J. G., Sullivan, A., & Justice, L. M. (2003). That's my letter! What preschoolers' name writing representations tell us about emergent literacy knowledge. *Journal of Literacy Research*, *35*, 757–776.

Additional References: Language and Literacy Development (LLD)

- Aram, D., & Brion, S. (2004). Joint storybook reading and joint writing interventions among low SES preschoolers: Differential contributions to early literacy. *Early Childhood Research Quarterly, 19*, 588–610.
- Berninger, V. W., Abbott, R. D., Jones, J., Wolf, B. J., Gould, L., Anderson-Youngstrom, M., & 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, 61–92.
- Bodrova, E., & Leong, D. J. (2001). *Tools of the mind: A case study of implementing the Vygotskian approach in American early childhood and primary classrooms*. Geneva, Switzerland: International Bureau of Education, UNESCO.
- Clay, M. M. (2000). Concepts about print: What have children learned about the way we print language?

- Portsmouth, NH: Heinemann.
- Evans, M. A., Williamson, K., & Pursoo, T. (2008). Preschoolers' attention to print during shared book reading. *Scientific Studies of Reading*, *12*, 106–129.
- Ferrier, S., Dunham, P., & Dunham, F. (2000). The confused robot: Two year olds' responses to breakdowns in conversation. *Social Development*, *9*(3), 337–347.
- Gertner, Y., Fisher, C., & Eisengart, J. (2006). Learning words and rules: Abstract knowledge of word order in early sentence comprehension. *Psychological Science*, *17*, 684–691.
- Hadley, P. A., & Rice, M. L. (1991). Conversational responsiveness of speech- and language-impaired preschoolers. *Journal of Speech and Hearing Research*, *34*, 1308–1317.
- Hidi, S., & Ainley, M. (2008). Interest and self-regulation: Relationships between two variables that influence learning. In D. H. Schunk, & B. J. Zimmerman (Eds.), *Motivation and self-regulated learning: Theory, research, and applications* (pp. 77–109). Mahwah, NJ: Lawrence Erlbaum Associates Publishers.
- Jacobs, J. E. & Paris, S. G. (1987). Children's metacognition about reading: Issues in definition, measurement, and instruction. *Educational Psychologist*, *22*(3–4), 255–278.
- Justice, L. M., & Ezell, H. K. (2002). Use of storybook reading to increase print awareness in at-risk children. American Journal of Speech-Language Pathology, 11, 17–29.
- Justice, L. M., Pullen, P. C., & Pence, K. (2008). Influence of verbal and nonverbal references to print on preschoolers' visual attention to print during storybook reading. *Developmental Psychology, 44*, 855–866.
- Lonigan, C. J., Burgess, S. R., & Anthony, J. L. (2000). Development of emergent literacy and early reading skills in preschool children: Evidence from a latent-variable longitudinal study. *Developmental Psychology*, *36*(5), 596–613.
- Neuman, S. B., & Roskos, K. (1992). Literacy objects as cultural tools: Effects of children's literacy behaviors in play. *Reading Research Quarterly*, *27*(1), 202–225.
- Purcell-Gates, V. (1996). Stories, coupons, and the TV Guide: Relationships between home literacy experience and emergent literacy knowledge. *Reading Research Quarterly*, *31*, 406–428.
- Purcell-Gates, V., & Dahl. K. L. (1991). Low-SES children's success and failure at early literacy. *Journal of Literacy Research*, 23(1), 1–34.
- Rice, M. L., & Wexler, K. (1998). Tense over time. *Journal of Speech, Language, and Hearing Research, 41*, 1412–1431.
- Roberts, B. (1992). The evolution of the young child's concept of word as a unit of spoken and written language. *Reading Research Quarterly, 27,* 125–137.

- Shanahan, T., and Lonigan, C. J. (2010). The national early literacy panel: A summary of the process and the report. *Educational Researcher*, 39(4), 279–285.
- Treiman, R., & Broderick, V. (1998). What's in a name: Children's knowledge about the letters in their own name. *Journal of Experimental Child Psychology*, 70, 97–116.
- Treiman, R., Cohen, J., Mulqueeny, K., Kessler, B., & Schechtman, S. (2007). Young children's knowledge about printed names. *Child Development*, *78*, 1458–1471.