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Business Alliance for Early Learning Fast Facts on Child Language and Literacy Development

The following Fast Facts were developed by David Lawrence, Brittany Birken and Laura Bailet. References are listed for each fact. As you review the document, Laura asked that you to consider the following:

- List length - we can identify a shorter list if that is everyone's preference.
- David recommends not using references older than the year 2000, but a couple of the older facts are so commonly cited and compelling, that they are included for now.
- This should be viewed as a working document. Laura will add other facts that members suggest, as long as we have the reference.
- Please consider how to use this information, individually and collectively.

Brain Development

- Babies are born learning, and parents play a huge role in a child's future success, starting before birth.¹
- Babies start forming memories as young as 3 months.²
- 700-1000 new neural connections form in a baby's brain every second, and connections = learning.³
- By age 2, a child's brain has more than a hundred trillion connections.⁴
- 85% of brain growth happens by age 3.⁵
- The brain never stops developing, but the early years set the critical foundation for all future learning, behavior, and health.³

Language and Early Literacy Development

- Babies recognize their mother's voice at birth.⁶
- "Baby talk" is great for babies, especially the higher-pitched, exaggerated talk in one-on-one conversations.⁷

¹Shonkoff, J. P., & Phillips, D. A. (Eds.). (2000). From neurons to neighborhoods: The science of early childhood development. Washington, D. C.: National Academy Press.

²Rovee-Collier, C., & Cuervas, K. (2009). Multiple memory systems are unnecessary to account for infant memory development: An ecological model. *Developmental Psychology*, 45, 160-174.

³Harvard University, Cambridge, MA, Center for the Developing Child. Brain architecture. Retrieved November 30, 2015, from <http://developingchild.harvard.edu/science/key-concepts/brain-architecture/>.

⁴Zero to Three website. Retrieved November 30, 2015, from <http://www.zerotothree.org/child-development/brain-development/faqs-on-the-brain.html#changes>.

⁵For Our Babies website. Quality infant/toddler care. Retrieved November 30, 2015, from <http://forourbabies.org/learn-more/quality-care/>.

⁶Kuhl, P. K. (2000). A new view of language acquisition. *Proceedings of the National Academy of Sciences of the United States of America*, 97(22), 11850-11857.

⁷Ramirez-Esparza, N., Garcia-Sierra, A., & Kuhl, P. K. (2014). Look who's talking: Speech style and social context in language input to infants are linked to concurrent and future speech development. *Developmental Science* 17(6), 880-891.

- By 18 months of age, differences in vocabulary size are evident between families with higher education and income and families with lower education and income.^{8,9}
- By 4 years of age, children from language-rich environments have heard about 30 million words more than children from language-poor environments.⁸
- Children’s books have more varied vocabulary than adult conversation or TV, so reading with children helps build their vocabulary skills.^{10,11}

Book Access for Children

- Approximately 21% of children have 10 or fewer children’s books in the home; 2% have no children’s books at all.¹²
- Having children’s books at home is twice as important for a child’s developmental progress as the father’s education level.¹³
- In middle-income neighborhoods the ratio of books per child is 13 to 1; in low-income neighborhoods, the ratio is 1 book to 300 children.¹⁴
- 80% of preschool and after-school programs serving low-income children have no age-appropriate books for them.¹⁵
- When children are given 10 to 20 self-selected children’s books at the end of the school year, about 50% maintain or increase their reading skills over the summer.¹⁶

⁸Hart, B., & Risley, T. R. (1995). *Meaningful differences in the everyday experience of young American children*. Paul H Brookes Publishing.

⁹Fernald, A., Marchman, V. A., & Weisleder, A. (2014). SES differences in language processing skill and vocabulary are evident at 18 months. *Developmental Science*, 16(2), 234-248.

¹⁰Gilkerson, J., Richards, J. A., & Topping, K. J. (2015). The impact of book reading in the early years on parent-child language interaction. *Journal of Early Childhood Literacy*, DOI 146879415608907, first published October 9, 2015.

¹¹Cunningham, A., E., & Stanovich, K. E. (2001). What reading does for the mind. *Journal of Direct Instruction*, Vol. 1(2), 137-149.

¹²Kuo, A. A., Franke, T. M., Regalado, M., & Halfon, N. (2004). Parent report of reading to young children. *Pediatrics*, 113(6), 1944-1951.

¹³Evans, M., J. Kelley, J. Sikora, and D. Treiman. 2010. Family scholarly culture and educational success: Books and schooling in 27 nations. *Research in Social Stratification and Mobility* 28: 171–97.

¹⁴Neuman, S. B., & Dickinson, D. K. (Eds). (2006). *Handbook of early literacy research (Vol. 2, p. 31)*. New York, NY: Guilford Press.

¹⁵Neuman, S., & Celano, B. (2001). Access to print in low-income and middle-income communities: An ecological study of 4 neighborhoods. *Reading Research Quarterly*, 36(1), 8-26.

¹⁶Allington, R., McGill-Franzen, A., Williams, L., & Graff, J. M. (2010). Addressing summer reading setback among economically disadvantaged elementary students. *Reading Psychology*, DOI 1080/027/2711.2010.505165.

School Readiness and Learning to Read

- 20-30% of children enrolled in prekindergarten score below average in reading readiness.^{17, 18,19}
- A child should know 15-18 alphabet letters by the end of preK to have a strong chance of reading on grade level by the end of 1st grade.²⁰
- 30-40% of beginning kindergarteners are significantly behind in language and reading readiness skills needed for academic success.^{21,22}
- A child who is behind in reading at the end of 1st grade has only a 12% chance of reading at grade level by 4th grade.²³
- Children who are not proficient readers by 3rd grade are 4 times less likely to graduate from high school on time; such children who also live in poverty are 13 times less likely to graduate high school on time.²⁴
- 61% of FL 4th graders are below the “proficient” level on a national reading test.²⁵
- 70% of FL 8th graders are below the “proficient” level on a national reading test.²⁵
- 43% of FL 3rd graders failed the FL State Assessment in Reading in 2014.²⁶
- 45% of FL 10th graders failed the FL State Assessment in Reading in 2014.²⁶
- For out-of-school reading, a good reader in 5th grade reads as many words in 2 days as a poor reader reads in an entire year.²⁷

¹⁷Bailet, L.L., Repper, K.K., Murphy, S.P., Piasta, S.B., & Zettler-Greeley, C.M. (2013). Emergent literacy intervention for prekindergarteners at risk for reading failure: Years two and three of a multi-year study. *Journal of Learning Disabilities, 45*(2), 133-153.

¹⁸Bailet, L.L., Repper, K.K., Piasta, S.B., & Murphy, S.P. (2009). Emergent literacy intervention for prekindergarteners at risk for reading failure. *Journal of Learning Disabilities, 42*(4), 336-255.

¹⁹Zettler-Greeley, C., Bailet, L. L., DeLuca, T., and Murphy, S. P. (under review). Building emergent literacy skills in prekindergarten children at-risk for later reading failure: Treatment, dosage, and the maintenance of gains.

²⁰Piasta, S. B., Petscher, Y., & Justice, L. M. (2012). How many letters should preschoolers in public programs know? The diagnostic efficiency of various preschool letter-naming benchmarks for predicting first-grade Literacy Achievement. *Journal of Educational Psychology, 104*(4), 945-958.

²¹Council on Early Childhood, American Academy of Pediatrics. (2014). Literacy promotion: An essential component of primary care pediatric practice. *Pediatrics, 134*(2), 1-6.

²²Fielding, L., Kerr, N., & Rosier, P. (2007). Annual growth for all students: Catch-up growth for those who are behind. Kennewick, WA: New Foundation Press.

²³Juel, C. Learning to read and write: A longitudinal study of 54 children from first through fourth grades. *Journal of Educational Psychology, 80*, 437-447.

²⁴Daily, S., Burkhauser, M., & Halle, T. (2010). *A review of school readiness practices in the states: Early learning guidelines and assessments*. Washington D.C.: Child Trends. Retrieved November 30, 2015, <http://www.childtrends.org/wp-content/uploads/2013/05/2010-14-SchoolReadinessStates.pdf>.

²⁵U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. The nation’s report card, 2015 math and reading assessments. Retrieved December 14, 2015, from: <http://nces.ed.gov>.

²⁵Florida Department of Education. Statewide comparison of reading scores. Retrieved December 14, 2015, from <http://www.fldoe.org/accountability/assessments/k-12-student-assessment/results/2014.stml>.

²⁷Cunningham, A., E., & Stanovich, K. E. (2001). What reading does for the mind. *Journal of Direct Instruction, Vol. 1*(2), 137-149.