



Megan M. McClelland, Ph.D.
Katherine E. Smith Healthy Children and Families Professor
Hallie E. Ford Center for Healthy Children & Families
College of Public Health and Human Sciences
2631 SW Campus Way
Corvallis, OR 97331 USA
T 541-737-9225 | F 541-737-1076 |
megan.mcclelland@oregonstate.edu

School Readiness Media Resources for Parents and Teachers

Resource:	What is Available:
Zero To Three http://www.zerotothree.org/	Professional Development Resources, Fact Sheets, Tips and Tools on Child Care, Handouts for Parents
Center on the Developing Child- Harvard University http://developingchild.harvard.edu	Informational Videos on the development of self-regulation and executive function skills Activity Plans by age group Resources Tools & Guides
PBS http://www.pbslearningmedia.org/ http://pbskids.org/island/teachers/ http://www.pbs.org/parents/	Preschool Activities organized by Media Type: <ul style="list-style-type: none">- Video- Document- Interactive (online)- Audio Informative articles on school readiness
Mind in the Making http://www.mindinthemaking.org/	Information Articles Activities for parents/children Community Facilitation Resources (\$)
Promoting Self-Regulation in the Early Childhood Classroom McClelland & Tominey (2015) https://www.routledge.com/Stop-Think-Act-Integrating-Self-Regulation/in-the-Early-Childhood-Classroom/McClelland-Tominey/p/book/9780415745239 https://www.amazon.com/Stop-Think-Act-Integrating-Self-Regulation/dp/0415745233/ref=sr_1_1?keywords=stop+think+act&qid=1570486194&sr=8-1	A comprehensive review of the latest research on self-regulation in the classroom as well as activities to help children learn and improve their self-regulation skills.
Creating Compassionate Kids https://creatingcompassionatekids.org/	A host of books, blogs, magazine articles, research papers, and more around supporting children social and emotional development.



**Oregon State
University**

Megan M. McClelland, Ph.D.

Katherine E. Smith Healthy Children and Families Professor

Hallie E. Ford Center for Healthy Children & Families

College of Public Health and Human Sciences

2631 SW Campus Way

Corvallis, OR 97331 USA

T 541-737-9225 | F 541-737-1076 |

megan.mcclelland@oregonstate.edu

Sesame Street * http://www.sesamestreet.org http://www.plazasesamo.com/home	Topics & Activities Tool Kits Recipes Crafts Downloads & Videos
Exchange Every Day http://www.childcareexchange.com/eed/	Professional Development Resources Training Kits (\$)
National Association for the Education of Young Children (NAEYC) http://www.naeyc.org	Resources A list of related websites Publications
Early Childhood Teacher http://www.earlychildhoodteacher.org	Teacher Tools (websites providing free lesson plans)
Vroom* http://www.joinvroom.org http://joinvroom.org/es	Parent Resources Tools & Activities
iColorin Colorado! * http://www.colorincolorado.org/ http://www.colorincolorado.org/?langswitch=es	A bilingual website for parents and teachers of English Language Learners <i>(Children learning two languages)</i> <ul style="list-style-type: none">- Web resources- Articles- Guides and toolkits
Head Start * http://eclkc.ohs.acf.hhs.gov/hslc/hs/sr http://eclkc.ohs.acf.hhs.gov/hslc/Espanol	Informational resources on School Readiness <ul style="list-style-type: none">- Parents- Teachers- Child Care Staff
Bright Horizons http://www.brighthorizons.com/family-resources/prepare-your-child-for-school	Activities to promote learning at home



...and when they woke up, they were Tigers!

Improving children's *self-regulation* by playing games at home!

Sleeping Game

Children use their mats as beds and pretend to sleep when the parent sings or chants, "Sleeping, sleeping, all the children are sleeping." They will have a chance to pretend to be different animals and are encouraged to move around. Whenever the parent sings the Sleeping Song, it is time to return to their beds and pretend to go to sleep. As children learn the game, parents may ask their children to suggest ideas for other animals and actions.

Red Light, Purple Light

Like the traditional game, Red Light, Green Light, a parent acts as a "stop light" by standing at the opposite end of the room from the children. The "stop light" holds up different colored shapes to represent stop and go. Children are asked to walk, hop, or tiptoe from one end of the room to the other. They should stop when the colored shape that means stop is held up, and perform the action when the colored shape that means go is held up. After playing the basic version of Red Light, Purple Light, parents can use different colors, such as purple for "go" and orange for "stop" and then ask children to perform opposite actions (e.g., "go" when they see orange and "stop" when they see purple).

Note: Red Light, Purple Light can be played with children standing in a circle or sitting down. Parents can choose actions that allow children to move in place in response to the start and stop cues (e.g., jumping or marching in place). Parents can also add opportunities for children to lead by acting as the stop light.

The Freeze Game

Children and parents dance to music and freeze when it stops. Parents will use a range of slow and fast songs and alternate between them and encourage children to dance quickly or slowly along with the music. Once children have practiced the basic dance and freeze skills, parents will have children dance to opposite cues: dance quickly to the slow songs and slowly to the fast songs.

Conducting and Orchestra

Pass out one musical instrument (e.g. bells or homemade shaker) to each child. Use a drum stick (e.g., wooden spoon) as a conducting baton. Let children know that when you wave the baton, they can play their instrument. When you set the baton down, they stop playing their instruments. Have children play quickly when the baton moves quickly and slowly when the baton moves slowly. Once children have had opportunities to practice this game, ask children to do the opposite. When you wave the baton, ask children to stop playing their instruments and when you set the baton down, have children play their instruments again. Allow children the opportunity to lead as conductor.

Drum Beats

For this game, you will use a drum (or something similar- e.g. kitchen pot). Children will move their bodies (e.g., stomping) when you beat the drum and freeze when the drum beats stop. Actions can be performed while children move around the room or in one place depending on the space available. You will ask children to move quickly to fast drumming, slowly to slow drumming, and freeze when the drumming stops. Once children have practiced these skills, ask children to respond to opposite cues (walk slowly to fast drum beats and quickly to slow drum beats). For example, you ask children to stomp their feet along with slow drumming and do jumping jacks along with fast drumming.





...y cuando se despertaron, ¡eran tigres!

¡Mejorar la *auto-regulación* de los niños a través de jugar en casa!

Juego de los Sueños

Los niños usan sus alfombrillas como camas y fingir dormir cuando los padres canta, “¡Durmiendo, durmiendo, todos los niños están durmiendo!” Tendrán la oportunidad de fingir ser animales diferentes y se les animará a moverse alrededor. Cualquier momento que los padres canta la canción, “Durmiendo,” es hora de regresar a sus camas y fingir dormir. Mientras los niños aprenden el juego, los padres pueden pedir que los niños sugieran ideas de otros animales y otras acciones.

Luz Roja, Luz Morada

Similar al juego tradicional, “Luz Roja, Luz Verde,” los padres actúa como un semáforo a través de estar de pie en el extremo opuesto del aula. El “semáforo” levanta figuras de colores diferentes para representar “pare” y “vaya.” Se pide a los niños caminar, saltar, o caminar de puntillas desde un lado del aula al otro. Deben parar cuando se levanta la figura que representa “pare” y hacer una acción cuando se levanta la figura que representa “vaya.” Después de jugar la versión básica de “Luz Roja, Luz Morada,” los padres usará colores diferentes (p.ej. morada para “vaya” y anaranjada para “pare”) y luego pedirá a los niños hacer la acción opuesta (p.ej. “vaya” cuando vean anaranjada y “pare” cuando vean morada).

Atención: Se puede jugar “Luz Roja, Luz Morada” se puede jugar con niños parados en círculo o sentados. Los padres pueden escoger acciones que permiten a los niños moverse en su lugar (p.ej. saltar, marchar en su lugar). Los padres deben añadir oportunidades a los niños para ser el líder a través de actuar como semáforo.

El Juego de Congelar

Los niños y los padres bailan a música y se congelan cuando se detiene. Los padres usarán una gama de música lenta y rápida, alternando entre las, y animarán a los niños bailar rápidamente o lentamente junto con la música. Después de practicar el baile básico y habilidades de congelar, los padres pedirán que los niños bailen al señal opuesto: bailen rápidamente a las canciones lentas y lentamente a las canciones rápidas.

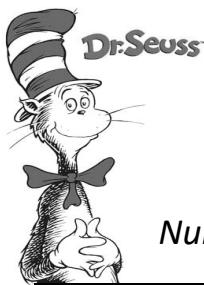
Dirigiendo una Orquesta

Pase un instrumento musical (p.ej. campanas o coctelera hecha en casa) a cada niño. Use un palillo (p.ej. cuchara de madera) como una batuta. Déjales saber a los niños que cuando se levanta la batuta, pueden tocar sus instrumentos. Cuando se baja la batuta, paran de tocar sus instrumentos. Pide que los niños toquen rápidamente cuando la batuta mueve rápidamente y lentamente cuando la batuta mueve lentamente. Después de tener varias oportunidades de practicar el juego, pida que los niños hagan lo opuesto. Cuando se levanta la batuta, pida que los niños paren de tocar y cuando se baja batuta, pida que los niños toquen de nuevo. Déles la oportunidad de ser director.

Ritmos del Tambor

Para este juego, los padres usarán un tambor (o algo similar, p. olla de cocina). Los niños se moverán sus cuerpos (p.ej. pisar, marchar en su lugar, saltar) cuando los padres golpea el tambor y congelarán cuando para de golpear. Se pueden hacer las acciones mientras que los niños se muevan alrededor del aula o en un lugar, dependiendo en el espacio disponible. Los padres pedirán a los niños moverse rápidamente a ritmos rápidos y lentamente a ritmos lentos. Después de practicar estas habilidades, los padres pedirán a los niños hacer lo opuesto (moverse lentamente a ritmos rápidos y rápidamente a ritmos lentos). Por ejemplo, los padres puede pedir a los niños pisar fuerte junto con ritmos lentos y hacer saltos de tijeras junto con ritmos rápidos.





Book List: Getting Your Child Ready for Kindergarten!



You are never too old, too wacky, too wild, to pick up a book and read to a child.
Nunca eres muy viejo, muy loco, muy salvaje, para coger un libro y leérselo a un niño.

Title	Author	Year
Eliza's Kindergarten Surprise	Alice B. McGinty	2007
Kindergarten countdown	Anna Jane Hays	2007
Kindergarten Diary	Antoinette Portis	2010
The Kissing Hand	Audrey Penn	1993
Is your buffalo ready for kindergarten?	Audrey Vernick	2010
I love you all day long	Francesca Rushackas	2004
Something for school	Hyun Young Lee	2008
One happy classroom	Jessica Harper	2006
First Day Jitters	Julie Danneberg	2000
Miss Bindergarten gets ready for kindergarten	Joseph Slate	2001
Kindergarten Rocks	Katie Davis	2008
Who will go to school today?	Karl Rühmann	2002
Weberly Worried	Kevin Henkes	2010
I can handle it!	Laurie Wright	2016
Little Critter: First day of school	Mercer Mayer	2009
Henry's 100 days of kindergarten	Nancy Carlson	2004
The night before kindergarten	Natasha Wing	2001
I love school!	Philemon Sturges	2004
Adventure Annie goes to kindergarten	Toni Buzzeo	2010
Título	Autor	Año
Max va a la escuela	Adria F. Klein	2007
Un beso en mi mano	Audrey Penn	1993
Amelia y la fiesta de "muestra y cuenta"	Mimi Chapría	2004
¡Prepárate, kindergarten, Alla voy!	Nancy Carlson	2004
Mi escuela	Ginger Foglesong Guy	2006
Compartimos todo!	Robert Munsch	2002
Percy se enoja	Stuart Murphy	2012
¿Como van la escuela los dinosaurios?	Jane Yolen	2008
¡Que Nervios! El Primer Dia de Escuela.	Julie Danneberg	2006
David va al colegio.	Teresa Mlawer	2009
Un Caso Grave de RAYAS	David Shannon	2002
Crisantemo	Kevin Henkes	2017



SMART START

Kids in preschools that encourage them to play with language and focus their attention do better in school and later life

By Lisa Guernsey

D

until they get them right, learn to show courtesy when they accidentally bump into a friend, and ask astute questions about parts of insects or features of the nearby Mississippi River.

In many preschool classrooms in the U.S., children are asked to do little more than identify shapes and letters and sit quietly on rugs during story time. But a growing body of research is overturning assumptions about what early education can look like. The studies back up what Bradley sees in her work: when children learn certain skills, such as the ability to focus attention—skills that emerge when teachers employ games and conversations that prompt kids to think about what they are doing—the children do better socially and academically for years afterward. A study published last year, which tracked kids for a decade starting in preschool, found some evidence that children with teachers trained to foster such abilities may get better grades compared with children who did not get this type of education.

Politicians routinely promise to give more money to prekindergarten schooling, but there is now a new player on the scene with a particular interest in this kind of approach. About a year ago Jeff Bezos, the world's richest man, pledged to donate at least \$1 billion to build a network of preschools accessible to children in low-income families and inspired by the Montessori program he attended in Albuquerque, N.M., as a child. Many Montessori programs emphasize this type of playful activity and choice making. His initiative is still taking shape, and it has not yet been announced how the money will be spent. But experts say that to do right for kids, any program will need to focus on at least two foundational skills: executive functioning and oral language.

Executive function involves a suite of cognitive skills, such as being able to hold an idea in one's head and recall it a short time later (working memory), the ability to control impulses and emotions, and the flexibility to shift attention between tasks.

AWN BRADLEY, AN EARLY-CHILDHOOD TEACHER, HAS SPENT enough time with three-, four- and five-year-olds to know that they often do not get the credit they deserve. Children “are just told to follow orders or are told to only answer yes-and-no questions,” she says. But in five years of teaching at Libertas School of Memphis in Tennessee, Bradley has seen kids persistently try to solve math problems

Oral language skills mean not just expressing sounds and words but using them in meaningful conversations that involve increasingly complex sentences.

"These are the fundamentals that lead to later success," says Robert C. Pianta, dean of the Curry School of Education and Human Development at the University of Virginia. "And the more we learn about them, the more we learn what underpins the academic skills that we value." The long-term benefits carry tremendous significance for children in low-income families. Not only are they the intended recipients of many public pre-K programs, but studies show they are more likely to enter first grade behind their peers in terms of their early literacy and math skills.

FOCUS FACTOR

EARLIER THIS YEAR a little girl in pink, age three and a half, with neat cornrows in her hair, stood at a wood table at Breakthrough Montessori, a public charter school in Washington, D.C. It was 10 o'clock in the morning. The little girl was cradling a fresh pomegranate and looking at an empty glass bowl that her teacher, Marissa Howser, had set up along with other carefully designed activities children could choose to do. Each one was meant to foster new competencies, such as completing tasks without an adult's help and developing fine-motor coordination.

The pomegranate activity provides the incentive of making a midmorning snack, and the girl eagerly embarked on the challenge of separating the fruit's glossy red seeds from the white pulp. Her tiny fingers pushed and pulled. Her face was set in concentration. "Oh, yeah, I got one!" she suddenly exclaimed. She dropped the seed into the bowl, then began to pry out another and another.

IN BRIEF

Many preschools teach children to memorize letters and numbers, but new research indicates early education should have other priorities.

Language skills, which are taught via conversation and guided play, form a strong foundation for later educational achievement.

The ability to focus and control impulses, which can be developed through games that require choices, also has a positive and long-lasting impact.



PULLING SEEDS from a fruit pod, a youngster at a Montessori public school boosts his ability to focus and learn while having fun.

working for at least 20 minutes without interruption or coaching.

Standing at a table deseeding fruit might not seem like an obvious first step on the path to success in school and life. But a few decades ago cognitive scientists and behavioral researchers began to examine how and when children develop the ability to “self-regulate”—to know when to control emotions and how to follow through on tasks even when they might be difficult. The girl’s persistent attempts to separate the slippery seeds showed that kind of follow-through. (The term “self-regulation” sometimes is used interchangeably with “executive function.”)

Clancy Blair, a developmental psychology professor at New York University, was one of the first researchers to design experiments to understand how executive function works in young kids. “I began by looking at what is influencing the development of executive function,” Blair says. “Could we cultivate it? Could we develop it?”

In some of the experiments by Blair and others, children were asked to play games that required them to remember rules and resist impulses to do other things. For example, one game was a peg-tapping game in which children were supposed to tap twice when a researcher tapped once, or vice versa. In 2005 Blair reported that stress had a marked impact on performance in this task. He tested the amount of the stress hormone cortisol in the saliva of game players. When levels climbed but then dropped—a sign that stress was dropping, too—children were better able to remember the game rules. Success at a task came not only from repetition but also from reducing stress during performance.

In addition to environments that allow them to be calm enough to focus, young children also need chances to practice this kind of concentration. Megan McClelland, a child development researcher at Oregon State University, and her colleague Shauna Tominey developed a suite of six games called Red Light, Purple Light to see whether playing them could help. One of the games is roughly similar to Simon Says—the rule is that you don’t do something until you get the proper signal. Another asks children to dance when the music plays and freeze when it stops.

In a 2015 study of 276 children in Head Start, the federally funded preschool program for low-income families, Sara Schmitt of Purdue University, along with her colleagues, including McClelland, found that playing the games twice a week led to higher executive functioning than that observed in a control group. They also found a significant link between better executive function scores and better math scores among Spanish-speaking English-language learners.

Opportunities to practice independence and autonomy may be another key ingredient. A 2018 study in the *Journal of Applied Developmental Psychology* links improvements in children’s executive function to the extent to which adults give them a little autonomy. Such results are driving interest in the Montessori model, which gives children chances to choose activities that show what they are capable of, whether it is matching similar colors or preparing snacks for the group. And several studies comparing low-income children in Montessori with

other low-income children have shown that Montessori students score better on tests of executive function. Researchers have hypothesized that the schools’ emphasis on independent choices is one reason.

Another approach under study is Tools of the Mind, which employs a combination of literacy and math activities, dedicated time for children to talk about their plans for learning, and pretend play with costumes and props. Deborah Leong, a professor emerita at Metropolitan State University of Denver, who designed the program with developmental psychologist Elena Bodrova, said they wanted to push learning but make school “more playful and avoid ‘drill and kill.’”

One version being used in kindergarten involves the Magic Tree House series of books, which feature Jack and Annie, two time-traveling kids who have adventures visiting landmarks and natural settings around the world at different times in history. Students can pretend they are Jack and Annie exploring the rain forest. While putting on costumes and strapping on backpacks, they talk about plans for their adventures and assign themselves roles. The Tools approach is also used in pre-K, but there it does not rely on the books. Instead kids might be asked to play roles in familiar settings such as managing a restaurant in their community or sending letters through a post office, loosely guided by a teacher but coming up with specific ways to accomplish the tasks themselves. “The level of engagement in a Tools classroom is off the charts,” says Leslie Pekarek, a pre-K teacher at Gillett Elementary School in Wisconsin, who has used this method for the past four years. “When they are part of planning their play, they own it so much more. It feels like, it is, their idea.”

Adele Diamond, a developmental cognitive neuroscientist at the University of British Columbia, is one of several researchers who have studied the impact of the Tools approach. In a 2007 *Science* article, she and her co-authors compared 147 children, about five years old on average, who were from the same urban neighborhood and had teachers with the same resources and level of training. But one group of these kids had teachers who used

Tools, and the other group received a more traditional, literacy-oriented curriculum. After one year, the children in the Tools classrooms were testing better compared with the literacy group on tasks related to executive function. The program has since been redesigned to make it easier for teachers to use and customize. A 2014 study of the revamped version by Blair and C. Cybele Raver, also at N.Y.U., showed Tools children in 29 schools also gained skills in academics.

TALKING POINTS

THE CHILDREN using Tools or similar approaches are doing more than learning to plan and play roles. They are also developing language skills—the second set of foundational abilities highlighted by research. Teachers and parents notice these skills when frustrated children stop—or at least shorten—a tantrum and begin to “use their words.” The ability does not simply make adults’ lives easier. It also enables children to speak with and listen to peers in ways that help build friendships, and it gives them the ability to ask teachers and other adults questions about new content they see in books or videos. As children move into kindergarten and first grade, these language skills are linked to their ability to read and comprehend texts.

Sonia Q. Cabell, a literacy researcher at Florida State University, says it is critical to develop these skills early because they give rise to later, more sophisticated approaches to language and to learning. And after a slow start, she adds, it is hard to make up ground, and achievement gaps get wider: “The ones who are behind don’t tend to catch up.”

Insights about oral language and literacy are rooted in older studies on ways to help children learn to read. Starting in the late 1980s, studies showed that simply reading a picture book to a young child was not as effective as pausing to engage in “dialogic” reading. Interactive dialogue about the book helped children learn new words and follow the meaning of the stories. An oft-cited 2002 study showed that differences in the way a teacher talked in class—whether reading a book or not—could change how children in preschool learned language. In that study, which tested more than 300 kids from different socioeconomic backgrounds across Chicago, the children with teachers who spoke in complex sentences showed significant growth after one year in their own use of complex sentences. Those with teachers whose language was not as complex (less likely to use multiple clauses, for example) did not show the same growth.

Today the evidence continues to pile up: a higher quality and quantity of children’s turn-taking conversations helps them build their oral language skills, laying a foundation for reading and writing. For example, a study by Cabell and her colleagues, published this year in *Early Education and Development*, examined how teachers read books to 417 pre-K children in multiple locations around the U.S. It showed that what is called “extratextual” talk—moments when a teacher pauses to remark on the story and ask the children some informal questions about it—makes a big difference in children’s overall literacy and language skills. Some scientists are now applying these findings about teachers’ talking styles to experiments on how to help children with developmental delays.

Susan C. Levine, a professor of psychology at the University of Chicago, was one of the researchers who conducted the 2002 study of in-class language complexity. She also has been exploring how adults’ talk about math—whether by parents or teachers—

affects how children learn to handle numbers. For a 2006 study, she monitored hours of teacher-preschooler interactions. After a year, the more teachers used words associated with math—phrases such as “we share by dividing equally” and “all three of you can help me”—the higher the children scored on math tests.

Strategies to encourage more conversation are part of Tools of the Mind, too. Leong says the program was designed so children “talk to each other, and *then* the teacher calls on them. And by then they have had much more practice.” The kids are not only learning how to express themselves and use new vocabulary but also listening to each other: “It equalizes the classroom and creates a community of learners where kids value each other’s opinions,” she says.

To encourage this kind of conversation, teachers have to plan ahead and set up routines that provide a sense of order and fairness in the classroom. In her study of extratextual talk, Cabell and her colleagues discovered that it was only in highly organized reading sessions that conversation around the content of books appeared to affect how well children learned vocabulary. When classrooms were more chaotic, teachers were less likely to engage in conversation with children that stimulated their language development.

Regardless of the exact methods used, McClelland says, it is possible that many of these strategies for oral language and executive function work together and build on one another. Teachers who give kids opportunities to make choices can help to develop children’s executive function skills, which then helps them stay focused and keep their emotions under control. That in turn may aid children in figuring out math problems and lead them to try new words and complex sentences, which helps them learn to read and succeed in school. And all of that helps the kids feel less stressed and more able to regulate their behavior. The interwoven connections may also be what makes these skills so important throughout one’s lifetime. “All of this co-develops,” McClelland says.

LEVELING THE PLAYING FIELD

THE LIFELONG BENEFITS highlight just how unfortunate it is that the majority of low-income children do not have access to good preschool programs. A few states have rolled out free preschool for almost any resident who wants to enroll their children (Oklahoma, West Virginia and Washington, D.C., for example), but most states have more limited programs, and some states provide no preschool option at all. Head Start, which is aimed at families in poverty, children in foster care, homeless children and children with special needs, is currently accessible to only 31 percent of the eligible population, according to the National Head Start Association. The National Institute for Early Education Research at Rutgers University, which tracks teachers’ level of preparedness, as well as other indicators of quality in state-funded pre-K, found that just 9 percent of enrollees nationwide are in state programs with high marks on all or almost all indicators of quality.

This shortfall has long-term consequences. Research on educational outcomes for young children shows that the higher the quality of the program, the better children do by the end of high school and in their adult lives. A recent analysis of the effectiveness of 21 public pre-K programs, published this year by the nonprofit Learning Policy Institute, reported that high-quality programs “help close the gap in school and life outcomes between those raised in



INSTRUCTIONAL GAMES called Red Light, Purple Light, which include a dance activity, help kids learn to manage impulses and emotions.

low-income families and their wealthier peers.” These outcomes include a higher likelihood of graduating from high school and a lower likelihood of unemployment or spending time in jail.

Now there is evidence that a good preschool program may have effects that span generations. A new study by Nobel Prize-winning economist James J. Heckman of the University of Chicago and economist Ganesh Karapakula of Yale University tracked the effect of a Michigan program started in the 1960s known as the Perry Preschool Project. Perry used a curriculum called High-Scope that continues to be implemented in some preschools today and, as with Montessori and Tools of the Mind, puts a premium on executive function and language development. Heckman and Karapakula found that when the Perry children grew up and had kids of their own, those youngsters went further in school, had fewer discipline and legal troubles, and, for some, even had better health than children in a comparison group.

TEACHING TEACHER

THIS KIND OF QUALITY preschool experience, the research also indicates, requires a quality preschool teacher. The implication is that if governments ever follow through and invest more in pre-K and if Bezos’s preschool network comes into being, leaders will need to focus on training adults as much as teaching children. “These oral language and executive function skills have to be more explicitly part of the instruction in the classroom and not something that happens by accident,” University of Virginia’s Pianta says. “This is not just ‘let them play,’ nor is it ‘drill them on their letters.’”

Scientists highlighted this teaching effect in studies that began in the mid-2000s. They tracked hundreds of children in Chicago facilities that administer Head Start. Half of the children had teachers trained in ways of encouraging executive functions, and half had teachers who had not. Training included lessons on how to support children in managing their emotions and how to organize a classroom without being a dictator. By testing the children before and after their pre-K year, the researchers, led by

N.Y.U.’s Raver, found that the kids with trained teachers had better self-regulation and academic skills than those without. Ten years later researchers followed up with the children, now teenagers, to see whether the effects had lasted. The answer, published in 2018 in *PLOS ONE*, was yes. The students still had higher grades.

Other efforts to train teachers involve methods that prompt the adults to reflect on exactly what they are doing each day as they interact with children. Observers sit in the back of classrooms and take notes on a teacher’s ability to elaborate on children’s remarks while introducing new vocabulary, to redirect students’ attention when they become distracted, to recognize their individual needs, to respond thoughtfully to their questions or concerns, and more. The notes then get applied to one of several rating scales that score the classroom environment. One, now required in Head Start, is the Classroom Assessment Scoring System, developed by researchers at the University of Virginia. It measures interactions—including back-and-forth conversation—between teachers and children.

Coaching programs are also gaining traction as a way to give teachers support that is specific to the context of their classrooms. The coaches use data gathered from environment-rating scales and go into a classroom to physically demonstrate new techniques. “If the adult is scattered and doing 10 different things at once, that’s [likely] what the child will be doing,” says Elizabeth Slade, lead coach for the National Center on Montessori in the Public Sector. But when a teacher is focused on a child, one-on-one, Slade says, that teacher is showing “that this is what paying attention looks like.”

Perhaps that kind of behavior modeling is why the little girl with the pomegranate could work so diligently for so long. Earlier that morning her teacher had had several one-on-one conversations with other kids, letting the three-and-a-half-year-old work on the fruit by herself. By snack time, the girl had a full bowl of tasty, sweet seeds to offer to her classmates. She brought it over to a boy kneeling next to a shelf of blocks. “Pom-grat,” she said out loud, practicing the word, which she had just learned. “Do you like that?” **SA**

MORE TO EXPLORE

Closing the Achievement Gap through Modification of Neurocognitive and Neuroendocrine Function: Results from a Cluster Randomized Controlled Trial of an Innovative Approach to the Education of Children in Kindergarten. Clancy Blair and C. Cybele Raver in *PLOS ONE*, Vol. 9, No. 11, Article e112393; November 12, 2014.

Montessori Preschool Elevates and Equalizes Child Outcomes: A Longitudinal Study. Angeline S. Lillard et al. in *Frontiers in Psychology*, Vol. 8, Article 1783; October 2017.

The Chicago School Readiness Project: Examining the Long-Term Impacts of an Early Childhood Intervention. Tyler W. Watts et al. in *PLOS ONE*, Vol. 13, No. 7, Article e0200144; July 12, 2018.

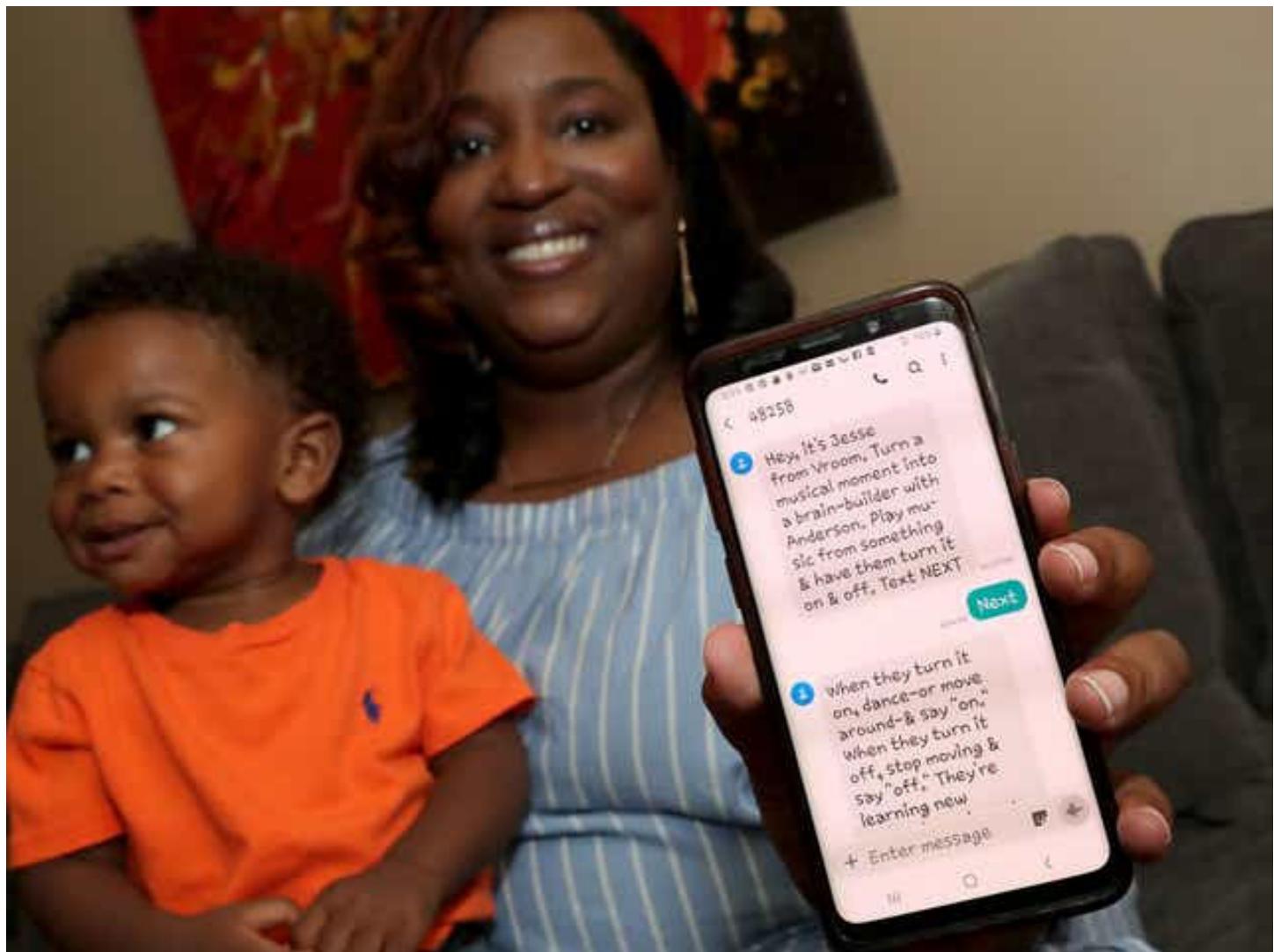
Prekindergarten Interactive Book Reading Quality and Children’s Language and Literacy Development: Classroom Organization as a Moderator. Sonia Q. Cabell et al. in *Early Education and Development*, Vol. 30, No. 1, pages 1–18; January 2019.

FROM OUR ARCHIVES

The Serious Need for Play. Melinda Wenner; *Scientific American Mind*, February 2009.



Reading at home and school attendance shot up with a cheap, easy solution: Texting



Tonia Tucker shows a message she received through Vroom while sitting with her 15-month old son, Anderson Dye, at Tucker's home in Milwaukee on Wednesday, Aug. 21, 2019. Vroom, which has a website and an app, helps parents of young children turn everyday experiences into learning activities.

MIKE DE SISTI / MILWAUKEE JOURNAL SENTINEL

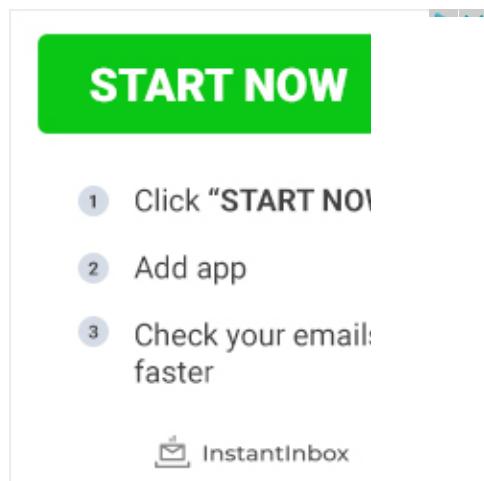
ERIN RICHARDS | USA TODAY | 7:35 pm EDT September 23, 2019



STORY HIGHLIGHTS

- Any parent can sign up for brain-building texts or app alerts to help kids 5 and under
- Researchers say texts to parents are the most affordable way to help low-income kids stay on track

CHICAGO – As a single mom who works full-time, Elizabeth Diaz doesn't always have time to read bedtime stories to her four children each night.



But a few years ago, the time Diaz spent reading to her children increased sharply. As part of a local study, Diaz was receiving text alerts on her phone that urged her to read stories loaded on an iPad researchers had given her.

“When they reminded me, I wanted to do more of the reading goals,” said Diaz, 35.

Amid today's advanced technologies, the humble text message is offering new promise for closing gaps in student achievement – by targeting the behavior of their parents. Informed by science, several new texting programs have helped parents and caregivers develop habits at home that help kids succeed.

Well-timed, well-crafted text messages to parents have led to an increase in reading to toddlers and a rise in Head Start enrollment and attendance, studies show. At the high school level, they've led to teens skipping fewer classes, completing more homework and earning higher grades.

More tech for learning: 4 novel ways to get kids reading

The interventions are particularly focused on lower-income parents, whose children often start to slip behind their wealthier peers' cognitive and academic development before kindergarten begins.

But some of the texting programs are available to everybody. Last year, the Bezos Family Foundation created a way for parents to sign up for weekly texts that suggest free, on-the-spot activities to engage the minds of their kids. The tips, based on the science of early learning, are available on a website and a free smartphone app. But usage increased much faster among low-income parents when the tips were sent via text, in part because they reached caregivers who didn't have internet-enabled phones.

The past six years have seen an explosion of evidence around how to engage parents at scale through low-cost technological interventions, said Peter Bergman, a professor of economics and education at the Teachers College at Columbia University.

"Texting is just a means to an end," he said. "It's really about reaching parents at the right time with the right information."

Cindy Martinez shows one of the texts she received alerting her of her children's activities at El Hogar del Niño, a Head Start center on South Loomis Street in Chicago.

MILWAUKEE JOURNAL SENTINEL

How's your kid doing in school?

Bergman was one of the first researchers to study the results of texting parents.

For one of his early studies at a Los Angeles high school in 2010, he tapped out messages from his own phone to hundreds of parents of students who were missing homework.

The results were striking: Homework completion of the students whose parents were texted shot up by 25% compared with students who missed an equal number of assignments but whose parents were not texted.

Turns out, most parents thought their children were performing better than they actually were, according to surveys at the beginning of the study.

"When we asked 'How many assignments do you think your kid has missed?' parents understated the number of missed assignments by 10, on average," Bergman said.

The results shot down the supposition that parents didn't care about their children's academics; they simply didn't know. Thanks to the ubiquity of cellphones, the text alerts allowed parents to receive accurate information about their children's performance, and it created an opportunity for them to intervene in a timely manner.

What about teacher texts to students? The trend is growing, but so is concern about it

Now Bergman has helped to start a nonprofit that would allow more districts to adopt the text-alert technology.

"In terms of bang for the buck, it's a clear win," Bergman said.

The best nudge for parents: Personalized texts

Much of the work happening now around changing parents' behavior stems from the research of Daniel Kahneman, the psychologist and Nobel Prize laureate who revolutionized theories about money, management and more with behavioral economics. *He is the author of the best-selling book "Thinking, Fast and Slow."*

In the years since his theories hit the mainstream, researchers have been exploring how to apply behavioral science to parenting. The goal is to understand why caregivers don't do certain things that are likely to lead to better academic outcomes for their kids. Researchers want to help parents form new habits – in ways that are culturally sensitive and not overly paternalistic.

For example, studies show children who attend high-quality Head Start programs are better prepared academically and socially for kindergarten than their peers who skip it. Yet rates of children signed up for Head Start can be uneven, and attendance is notoriously low.



Preschoolers Marissa Wilkes, right, and Noel Carteno work on counting activities with teacher Visaria Wang at El Hogar del Niño, a Head Start center on South Loomis Street in Chicago.

MILWAUKEE JOURNAL SENTINEL

How to intervene?

One recent study in New Orleans sent parents personalized texts with directions about enrolling their children in Head Start. Those people were more likely to sign up than similar low-income parents who did not receive text reminders.

And something unexpected happened: Parents who received personalized texts – rather than robo-alerts – tapped back to complain that the website materials for Head Start were confusing.

"Those interactions were revealing about what the barriers were for parents," said Lindsay Weixler, the lead researcher from Tulane University. She ran the study again after administrators revised the enrollment materials online.

"Lots of parents were getting thwarted by a complex process."

'I'm always running around'

Public schools – particularly those that serve low-income children – shoulder most of the blame for the achievement gap in America. That's the difference in academic performance between white children of means and other large subgroups, such as kids who are low-income or racial minorities.

In reality, that achievement gap is often yawning before kids tumble into kindergarten. It starts in the ways children are nurtured and talked to from birth.

But the private world kids inhabit from birth to age 5 has long been hard for researchers to study, let alone influence, said Ariel Kalil, a developmental psychologist at the University of Chicago. Five years ago, she co-launched a laboratory to study how to help parents adopt behaviors that would put more of their babies and toddlers on paths to success.

Preschoolers Exayana Bedolla, left, and Vanessa Serrano play at El Hogar del Niño, a Head Start center on South Loomis Street in Chicago on Thursday, Aug. 15, 2019.

MILWAUKEE JOURNAL SENTINEL

*Two of the lab's recent studies took place at **El Hogar del Niño**, a bustling Chicago Head Start center. Kalil and her team distributed iPads loaded with children's books to parents, then split them into two groups: One group received help setting goals around reading to their kids, and they also received text alerts that encouraged them to follow through. The other group didn't receive any extra encouragement.*

By the end of six weeks, parents who received texts had read more than twice as much of the iPad stories to their kids as the other parents.

In another study focused on attendance, Kalil and her team texted parents about what their children would miss if they didn't attend Head Start that day.

"We reduced chronic absenteeism by 20% over an 18-week period," Kalil said.

Today, the staff at El Hogar Del Nino have overhauled their IT system so they can send text messages to hundreds of parents each day, reminding them of everything from upcoming home visits to missing medical forms for their children.

Sandra Cardosa, a mother who took part in one of the studies a couple of years ago when her son was 3, said she prefers that style of communication.

"I'm always running around, and I can read a text faster than answering a call," she said.

After parenting for 97 hours a week, mom might need a night off. The two biggest “mom jobs” are meal planner and cook.

BUZZ60

'Brain-building' in early childhood

A considerable amount of effort to engage parents has come from the Bezos Family Foundation, run by Jackie and Mike Bezos, parents of Amazon founder and CEO Jeff Bezos.

The flagship effort: Vroom, a series of more than 1,000 quick tips for on-the-spot activities that are rooted in the science of brain development. The goal is to help parents turn everyday activities such as feeding and dressing their children into moments that develop focus, self-control and the ability to understand other people's perspectives – skills research has linked to thriving in school and beyond.

We vetted Vroom app. But be careful: Study says some other preschool apps manipulate kids to watch ads and make purchases

A free app and website house all those tips in one place. Parents can sign up for automatic Vroom tips via text or app alerts that are personalized for the age of the parent's child.

Tonia Tucker shows a message sent to her through the Vroom app at Tucker's home in Milwaukee on Wednesday, Aug. 21, 2019.

MIKE DE SISTI / MILWAUKEE JOURNAL SENTINEL

Tonia Tucker, a mother in Milwaukee, learned of Vroom from a friend who visited her in the hospital the day after she gave birth. Now, 15 months later, she consults the app to get ideas for how to more fully engage her son, Anderson.

Recently, a text from Vroom suggested she and Anderson turn the music off and on while saying "off" and "on" – a game that would help the toddler make connections between the words and the actions. When she got the alert, Tucker was about to go for a walk, so she turned the game into "stop" and "go" with Anderson riding in the stroller.

Tonia Tucker's 15-month old son Anderson Dye at Tucker's home in Milwaukee on Wednesday, Aug. 21, 2019.

MIKE DE SISTI / MILWAUKEE JOURNAL SENTINEL

Of course, Tucker knows she can pick up any book for ideas on activities she can do with her inquisitive son.

"But you don't always have time to pick up a book," she said. "Your phone is always with you."

What else to do with your baby: 'Baby talk' is a good thing and can actually help infants learn better

Education coverage at USA TODAY is made possible in part by a grant from the Bill & Melinda Gates Foundation. The Gates Foundation does not provide editorial input.

Originally Published 6:00 am EDT September 12, 2019

Updated 7:35 pm EDT September 23, 2019

Subscribe Now – Get Your Offer

THE SHORT LIST NEWSLETTER

The news everyone's talking about, delivered straight to your inbox.

Sign up now

[Help](#) • [Terms of Service](#) • [Privacy Notice](#)

[Your California Privacy Notice](#)

[Mobile Apps](#) • [Ad Choices](#)

© Copyright Gannett 2019