
Big Ideas, Little Learners:

Early Childhood Trends Report • 2019

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Looking Back at Progress: The Past 50 Years

The future is upon us. As technology and globalization accelerate the pace of change and our level of interdependence, it is difficult to predict what the future of work, future of learning, and future of society will look like. For example, it is estimated that 65 percent of children entering kindergarten today will ultimately end up working in new job types that do not exist yet. While we can't predict what specific skills and competencies will be required in 2030 and beyond, one thing is certain: The ability for children to thrive is closely linked to their early learning experience. This is especially true for complex, advanced skills and competencies that are social, emotional, creative, and cognitive in nature.

Meanwhile, America is rapidly changing. This year's entering kindergartners—the class of 2030—are minority/majority, are increasingly consuming digital media, are raised by digital-native Gen Y and Gen Z parents and educators, and are predominantly living

in urban centers. Additionally, nearly one out of two children has experienced at least one adverse childhood experience.

Notable progress in developing new practices and policy models in early childhood development has been undertaken over the past decades. Major innovations such as Head Start, Sesame Workshop, and Mister Rogers' Neighborhood, all three introduced in the 1960s, have reached millions of children and families. Scalable, evidence-based models like Early Head Start, home visitation programs, Educare, and other system interventions such as professional learning standards, state-based pre-K, and quality rating systems—to name a few—are now broadly influencing early childhood opportunities for young children and their families.

However, there is a lot more to be done for our young children, and the early years remain massively under-

invested. Per the Human Capital Index recently released by the World Bank, the US education system is estimated to only deliver 76 percent of human potential—on par with Serbia. When raised in a lower economic community, one child out of two starts kindergarten not fully prepared.¹ A child who enters kindergarten unprepared is 25 percent more likely not to finish high school and 60 percent more likely to skip college. On the positive side, when given the opportunities to develop this critical foundation in their early years, children can establish the skill sets for the future of work and learning, and perhaps most importantly can develop the capacities to be better family members, friends, neighbors, and engaged citizens, setting us all up for greater potential to live in a society defined by universal flourishing and greater equity.

The powerful work done by so many, coupled with the realities of our new America, lays the groundwork for new solutions. A burgeoning new wave of innovation in early learning has the potential to benefit new generations of little learners and their families, as well as our overall education system and society as a whole.

At Omidyar Network, we have the privilege to connect with many innovators and help them grow their ideas. In 2018 alone, we met with more than 300 early childhood entrepreneurs and supported a dozen organizations in early childhood (some featured in this report). In the following pages we seek to capture the megatrends that have brought us to the present and share some signals we see for what future early childhood learning trends could look like.

In the absence of fully knowing what the future holds for our young children, we also focus on the people they are today, ensuring that those little learners have the best possible experiences in their early years.

As with all innovation shifts, we need to remain hyperaware of the risks that come with a new paradigm. Who is this cutting-edge innovation reaching and who is it leaving out? What are the repercussions for increasing usage of technology—especially with young children and on quality relationships and care? In this regard, we are hopeful this report will be a conversation starter. We would welcome any reflections, thoughts, or questions it might spark for you.

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¹ Kindergarten readiness is generally defined as a combination of socioemotional/executive function skills (e.g., children being able to communicate their needs, wants, and thoughts verbally, and to be enthusiastic and curious about approaching new activities) and cognitive/physical and health attributes (e.g., developing language and literacy skills, and basic math, social, and motor skills). For more information, please read “Healthy and Ready to Learn” by ChildTrends at <https://www.childtrends.org/project/kindergarten-readiness-national-outcome-measure>.

MEGATREND 1

The Time Is Now: Early Childhood's Tipping Point

The world is experiencing change at an accelerated pace. This pace is propelling a rise in discussion about building resilient, curious, and creative minds who can thrive in an ever-changing world. In parallel, there has been meaningful progress across brain science and research establishing why the early years matter, coupled with the acceptance of the economic case of investing in our youngest children as yielding one of the highest societal returns. Early Childhood Development is now part of the Sustainable Development Goals globally.

As a result, parents, at least those with financial resources to do so, are investing more and earlier in their children. And, while still insufficient, federal, state, and city governments have increased their investments in early childhood, and governors and state legislatures are adding it to their agendas.

More Proof: Investing in early childhood matters

The case on why to invest in early childhood is clear: It is critical for future individual and societal flourishing and delivers one of the greatest societal ROI.



DID YOU KNOW?

MORE THAN 50% OF LOW-INCOME CHILDREN IN THE US ARE NOT PREPARED FOR KINDERGARTEN WHEN THEY ENTER. AND, THERE IS A "WORD WEALTH" DIFFERENCE BETWEEN LOWER AND HIGHER INCOME CHILDREN BY AGE THREE.

NEURAL CONNECTIONS FORMED

More than

1 MILLION

new neural connections formed per second in early childhood

RETURN ON INVESTMENT PROVED

Investing in early childhood has one of the highest societal returns at

13% ROI

- Individuals: increased earnings and educational outcomes
- Society: reduced special education, welfare, and crime costs, and increased tax revenues

COGNITIVE OUTCOMES ACHIEVED

Three-quarters of children with preschool education scored higher on IQ and achievement tests than children who did not attend preschool. Quality, intensity, and duration of preschool experience have a positive relationship on cognitive development

76%

OF CHILDREN WHO ATTENDED PRESCHOOL ACHIEVE HIGHER

IQ

SCORES THAN THEIR COUNTERPARTS WHO DID NOT

78%

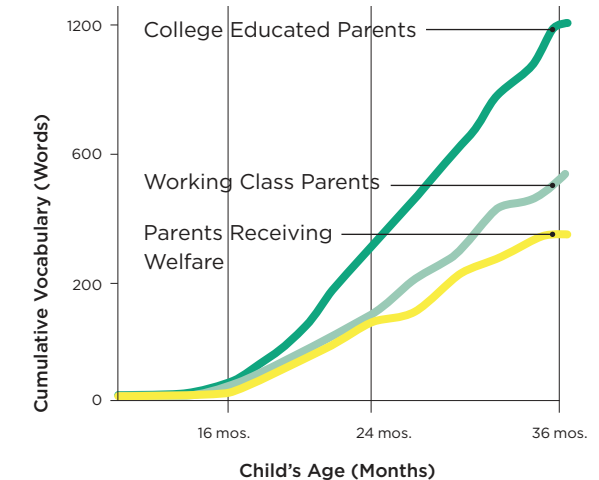
OF CHILDREN WHO ATTENDED PRESCHOOL ACHIEVE HIGHER

ACADEMIC ACHIEVEMENT

THAN THEIR COUNTERPARTS WHO DID NOT

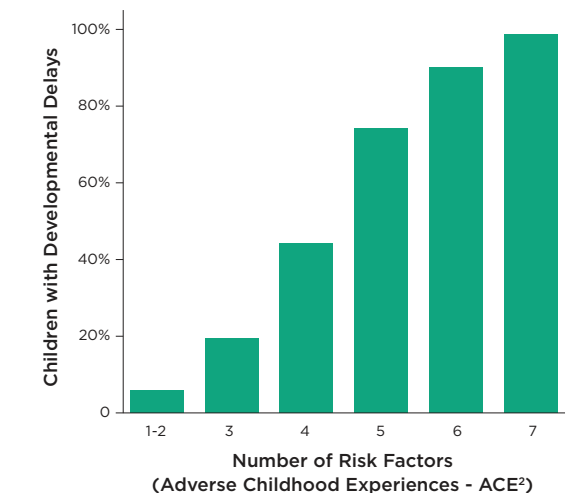
VOCABULARY DISPARITY INCREASED

18 months is the age at which disparities in vocabulary begin to appear



DEVELOPMENTAL DELAYS EXPERIENCED

90-100% chance of developmental delays when children experience 6 - 7 risk factors



2. Adverse Children Experiences (ACE) are stressful or traumatic events, including abuse and neglect. ACEs include: physical abuse, sexual abuse, emotional abuse, physical neglect, emotional neglect, intimate partner violence, mother treated violently, substance misuse within household, household mental illness, parental separation or divorce, incarcerated household member.

More Awareness:

The public now recognizes early childhood benefits

Governments, parents, and employers are investing increasing resources in early childhood.

PUBLIC FUNDING +17% SINCE 2016

- 2018 witnessed the largest increase in federal child care subsidies
- 89% of voters rate making early education and child care more affordable for working families as important



DID YOU KNOW?

16% OF 3-YEAR-OLDS AND 43% OF 4-YEAR-OLDS ARE ENROLLED IN PRE-K, HEAD START, OR SPECIAL EDUCATION PROGRAMS, RANKING THE UNITED STATES AS ONE OF THE LOWEST COUNTRIES WITHIN THE ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT (OECD).

PRIVATE FUNDING BY FAMILIES

1 in 3 families spends 20% or more in child care (guideline is 7% maximum) and this has been increasing



DID YOU KNOW?

THE AMOUNT SPENT BY THE TOP 10% INCOME FAMILIES ON CHILD CARE AND EDUCATION VS. THE BOTTOM 10% HAS RISEN FROM 2.5X IN 1970-1980 TO 4.4X IN 2010-2015.

20% OF LARGE EMPLOYERS NOW PROVIDE CHILD CARE

- Employers are starting to innovate on child care options, with 20% of large employers and 7% of all employers providing some child care on campus
- 7 in 10 working parents say providing parents with access to quality and affordable child care would have a positive effect on jobs and the economy



DID YOU KNOW?

IN OCTOBER 2018, STARBUCKS ANNOUNCED IT WILL PROVIDE 10 SUBSIDIZED BACKUP CHILD CARE DAYS FOR EMPLOYEE PARENTS AT A \$5 A DAY OUT-OF-POCKET COST FOR DAYCARE AND \$1 AN HOUR FOR IN-HOME CARE PROVIDERS.

MEGATREND 1

More Research: We understand how children learn and develop with increasing precision

Research is continuing to make meaningful advances on understanding brain development, including responses to stress, and quality of interactions.

NEW BRAIN IMAGING TECHNOLOGY

New technology of brain imaging seeks to better understand neural pathways and assess adult-child interactions. Advanced research is being led by the Institute for Learning & Brain Sciences (I-LABS) at the University of Washington

BIOMARKERS

A new battery of bio-behavioral measures is being piloted in pediatric practices to analyze stress effects and resilience at the molecular, cellular, and behavioral levels to understand more precisely how young children respond to adversity. This work is being conducted by a distinguished group of scientists, pediatric clinicians, and community leaders, led by the JPB Research Network on Toxic Stress and the Center on the Developing Child at Harvard University

NEUROSEQUENTIAL MODEL OF THERAPEUTICS

New modes of therapy are emerging for children who have experienced trauma, anchored in a child's history and current functioning, for greater precision of treatment



DID YOU KNOW?

ALMOST HALF OF THE NATION'S CHILDREN HAVE EXPERIENCED ONE OR MORE TYPES OF SERIOUS ADVERSITY IN CHILDHOOD.

MEGATREND 2

The Demand Is Here: America's Shifting Family Demographics

Demographic shifts in the US are leading to new gaps and opportunities for early childhood solutions that match the new picture of American families today.

Evolving family structures, with more single-parent households and two-working-parent families, are fueling an increasing demand for affordable quality child care. New parents are now more than 80 percent Gen Y (millennials)—and increasingly Gen Z—with new expectations from digital natives regarding modern parental resources, digital tools and services, and quality early childhood solutions. Additionally, migrations and birth trends have led to a new minority/majority in the US. Census data shows there are now more “minority” children under five than white children. These new demographics mean a rise of diverse language and cultural needs serving parents, child care, and preschools.

A New America:

New family dynamics create demands for early child care

American families have changed dramatically over the past 50 years, while evolutions in child care access and quality have not kept up. Furthermore, there has been a significant decline in fertility in recent years with 500,000 fewer babies in 2017 than in 2007, including cities like San Francisco where families struggle to raise children.



DID YOU KNOW?

AMONG NONWORKING POOR WITH YOUNG CHILDREN (11.4% OF NONWORKING POOR), A FULL 70% CITE "TAKING CARE OF HOME/FAMILY" AS THE REASON THEY'RE NOT IN THE WORKFORCE.

AMERICA'S WORKING PARENTS

- Two-thirds of children under five now live in homes where both parents work, compared with fewer than one in 10 in 1940
- Women are nearly half of the American workforce, and mothers are 40% of primary breadwinners

AMERICA'S CHILD CARE PRICE TAG

- The average cost of full-time center-based care is about \$10,000 a year higher than the average cost of in-state college tuition in 33 states
- A family earning the median household income would spend 18% of it on child care. For an individual earning minimum wage, care costs about two-thirds (64%) of their earnings

AMERICA'S CHILD CARE OPTIONS

- Only 10% of early childhood providers across the US are considered high-quality
- Half of Americans live in areas that have an undersupply of licensed care options

AMERICA'S STUDENT PARENTS

- 4.8 million or 26% of all 2-year and 4-year college students have a dependent child
- 53% of student parents have left college without obtaining a degree

A New Generation:

Gen Y and Z parents are hyperconnected, informed, and social

Gen Y witnessed the introduction and rise of social media, instant messaging, smartphones, search engines, and mobile, while ubiquitous connectivity, curated global information, on-demand video are native to Gen Z. As parents, Gen Y and Gen Z expect on-demand information and services, as well as social media interactions.



DID YOU KNOW?

ACCORDING TO COMMON SENSE MEDIA, 98% OF FAMILIES WITH CHILDREN BIRTH TO 8 HAVE ACCESS TO A MOBILE DEVICE IN THE US.

	GEN Y (BORN IN 1980-1994)	GEN Z (BORN IN 1995-2012)
HOW OLD ARE THEY TODAY?	25-39	7-24
PERCENTAGE OF TODAY'S WORKFORCE	35%	5%
PERCENTAGE OF TODAY'S NEW MOMS	82%	10%
VALUES ADVICE FROM PARENTING BLOGS, WEBSITES, AND SOCIAL MEDIA	71%	N/A
ATTENTION SPAN	12 seconds	8 seconds
PURCHASE MADE ON MOBILE IN PAST 6 MONTHS	36%	53%
PRIMARY TECHNOLOGY CONCERN	CHOICE OVERLOAD	PHONE SEPARATION ANXIETY
FAVORITE WEBSITE	AMAZON	YOUTUBE
EMAIL AS PREFERRED MEANS TO BE REACHED	43%	33%
SOCIAL MEDIA AS PREFERRED MEANS TO BE REACHED	29%	34%
ONLINE ADS AS PREFERRED MEANS TO BE REACHED	16%	28%
'WORKING WI-FI' MORE IMPORTANT THAN 'WORKING BATHROOM'	N/A	40%
COMFORT SHARING PERSONAL INFORMATION	N/A	70%

MEGATREND 2

A New Learner:

The new “majority minority”

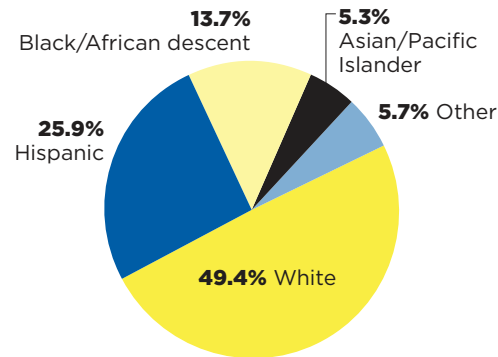
Shifting demographics bring a new diversity to America’s early learners that requires embracing cultural, racial, language, and other differences, and a focus on equity. In 24 US states, 50 percent or more of babies are now born on Medicaid.



DID YOU KNOW?

MORE THAN 16% OF KINDERGARTNERS IN PUBLIC SCHOOLS WERE ENGLISH LANGUAGE LEARNERS IN 2014-15, AND THIS IS GROWING.

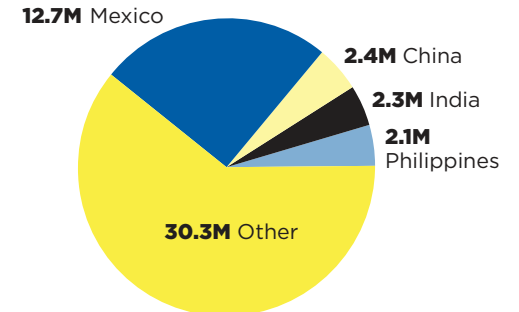
DIVERSITY



In 2017, there were 20 million children in the US under the age of 5, and 50.4% of them were minorities

MIGRATION

US Immigrants by Country of Origin, in Millions



The US has more international migrants than any other country, and is home to about one in five migrants—49.8 million in 2017 or 15% of the US population



MEGATREND 3

Supply Is On the Rise: New Early Childhood Learning Opportunities Unleashed

Nonprofit and for-profit entrepreneurship is on the rise in early childhood, and encouragingly is seeing founders who are more representative of the communities they are serving. Funding activity is also increasing across government, philanthropy, impact investing, and venture capital, supporting these innovators. With this shift, we are seeing new solutions emerge that build on these critical interventions, while attracting new talent with the potential to reach our most vulnerable children.

With new supply comes greater responsibilities to ensure innovation delivers on outcomes for **all children**.³ In addition, there is an increasing need for responsible tech, especially for young children.⁴

³ Omidyar Network has supported the Center on the Developing Child at Harvard University since 2015 and considers them a notable partner in this work.

⁴ A pioneer and landmark organization in responsible tech for children and families is Common Sense Media, supported by Omidyar Network from 2006 until 2013.

New Talent:

Entrepreneurs are on a mission to address early childhood development gaps

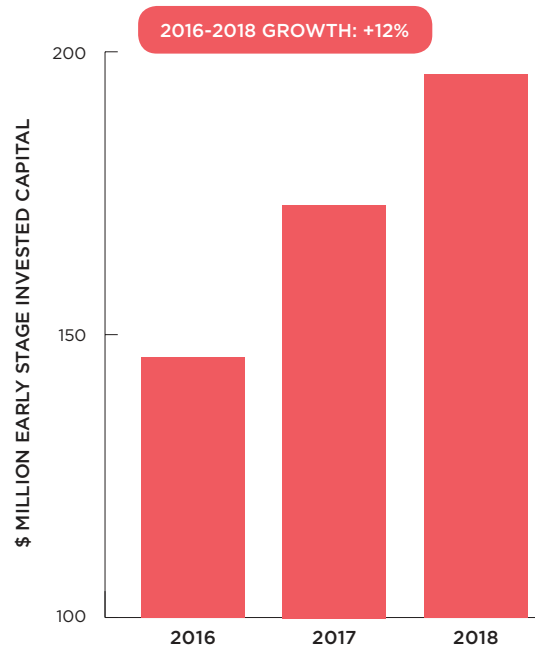
Entrepreneurship in early childhood is on the rise, often taken on by parents, educators, and researchers who are on a mission to solve big problems and see fragmentation in early childhood as an opportunity.



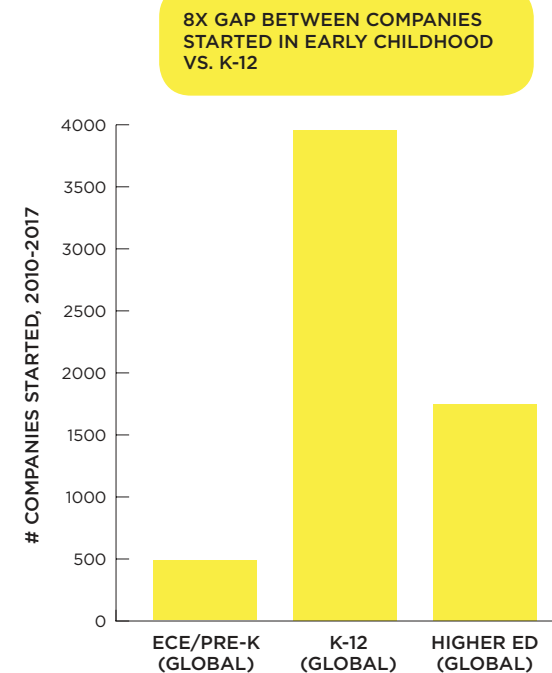
DID YOU KNOW?

OUT OF 158 APPLICANTS FOR EARLY FUTURES, A 2018 CONVENING ON EARLY CHILDHOOD INNOVATION, 64% OF ALL APPLICANTS WERE FEMALE AND 27% WERE PERSONS OF COLOR.

INNOVATION FUNDING ON THE RISE IN EARLY CHILDHOOD



YET, MAJOR GAP REMAINS RELATIVE TO LATER AGE GROUPS



NEW FACE OF EARLY CHILDHOOD ENTREPRENEURS

ILLUSTRATIVE ENTREPRENEURS SELECTED FROM ORGANIZATIONS FEATURED IN THE NEXT SECTION.



CHRIS BENNETT,
CEO/CO-FOUNDER
WONDERSCHOOL



JIN LEE, CEO/
FOUNDER
BABYNOGGIN



BETHANY
ROBERTSON,
CO-FOUNDER &
CO-DIRECTOR
PARENTSTOGETHER



ANA ROCA CASTRO,
CEO/FOUNDER
GENIUS PLAZA

New Funding: Philanthropy, impact investing, and venture capital are fueling new ideas in early childhood

New pools of funding are coming into early childhood—across philanthropy, impact investing, and venture capital. All agree there are opportunities to address these big social needs.



DID YOU KNOW?

PROMISE VENTURE STUDIO, LAUNCHED IN 2018, HELPS ACCELERATE NONPROFIT AND FOR-PROFIT ENTREPRENEURIAL-LED INNOVATION IN EARLY CHILDHOOD. THEY PARTICULARLY FOCUS ON LOW INCOME CHILDREN IN PARTNERSHIP WITH THE CENTER ON THE DEVELOPING CHILD AT HARVARD UNIVERSITY AND THE NATIONAL HEAD START ASSOCIATION.

PHILANTHROPY

Big bets have been made in pediatrics, early childhood workforce, and child care by top philanthropic funders in early childhood

Newer philanthropic players such as the **CHAN ZUCKERBERG INITIATIVE** with The Primary School, serving 250 children and families in East Palo Alto, CA this school year, and **BEZOS DAY ONE FUND** (\$1Bn commitment announced) are starting to fund early childhood learning. Local philanthropy is playing an increasingly prevalent role in early childhood

IMPACT INVESTING

New commitments in early childhood by impact and edtech investors

COLLAB+SESAME WORKSHOP
GARY COMMUNITY INVESTMENTS
LEARN CAPITAL
OMIDYAR NETWORK
OWL VENTURES
REACH CAPITAL
RETHINK EDUCATION
VALHALLA CHARITABLE FOUNDATION

VENTURE CAPITAL

Examples of leading venture funds and private equity firms investing in early childhood in 2018

ANDREESSEN HOROWITZ (WONDERSCHOOL)
BESSEMER VENTURE PARTNERS (BRIGHTWHEEL)
SUMMIT PARTNERS (TEACHING STRATEGIES)
WARBURG PINCUS (PROCARE)

INNOVATION PRIZES

GARY COMMUNITY INVESTMENTS partnered with **OPENIDEO** on the Early Childhood Innovation Prize, which leveraged open innovation to bring together hundreds of innovators and experts from across the globe to collaboratively solve the biggest challenges facing young children during their first three years of life.

NEWSCHOOLS VENTURE FUND selected a cohort of 15 organizations as part of the NewSchools Ignite Early Learning (Pre-K-2nd Grade) Challenge in 2017

MEGATREND 3

New Responsibilities: Tech's intersection with children requires new thinking

There is growing dissatisfaction with technology: lack of accountability, user transparency, monopolies of platforms and ecosystems, and the addiction economy. Tech's intersection with children is also coming under scrutiny, but has the potential to create space for more responsible, ethical, thoughtful, transparent tech created by designers with the child and family's well-being in mind.

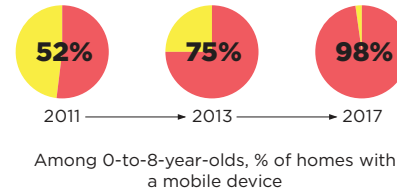


DID YOU KNOW?

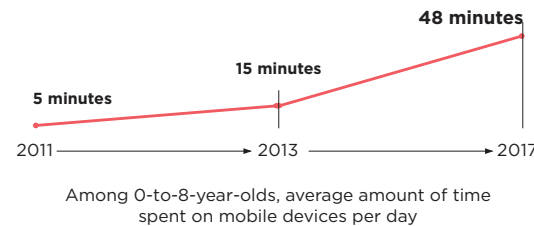
A 0-8-YEAR-OLD CHILD FROM A LOWER INCOME BACKGROUND SPENDS 73 MIN USING MOBILE MEDIA VS. 37 MIN FOR A HIGHER INCOME PEER. 67% OF LOWER (AND HIGHER) INCOME PARENTS HAVE DOWNLOADED APPS FOR THEIR CHILD TO USE IN 2017 VS. 14% IN 2011.

DIGITAL DEVICE PENETRATION NOW UBIQUITOUS AND MOBILE MEDIA USAGE RISING

Mobile is universal



Mobile media time has tripled—again



QUANTITY: SCREEN GUIDELINES

AGE	AMERICAN ACADEMY OF PEDIATRICS: RECOMMENDATION
<18 MONTHS	Avoid use of screen media other than video-chatting
18-24 MONTHS	Parents who want to introduce digital media should choose high-quality programming, and watch it with their children to help them understand what they're seeing
2-5 YEARS	Limit screen use to 1 hour per day of high-quality programs; parents should co-view media with children to help them understand what they are seeing and apply it to the world around them

QUALITY: RESPONSIBLE TECH

There are now over 500,000 apps marketed as educational in the app store. Out of the >1,200 apps for 2-5-year-olds rated by Common Sense Media, only 10% receive top rating 4 or 5. Based on science of learning, there are four principles that need to be embedded in design of tech for kids, also referred as "EAIMS."

ENGAGED	ACTIVELY INVOLVED	MEANINGFUL	SOCIAL
Children learn best when they are engaged with the material and undistracted by features that are unrelated to the main content	Learning is supported when children are actively involved in the educational content	The educational content is learned best when embedded in meaningful experiences and settings that children can relate to	Children learn best when the learning is social; this can take many forms, including media content that mimics social interactions between children and other people in their own environment

The Future Never Stops:

Innovation Trends Reach Early Childhood

As technology advances in all other aspects of our lives, its benefits are being translated into innovations in early childhood. Mirroring the trends we outlined previously, innovations are already reaching our new little learners, our new generation of Gen Y and Gen Z parents, educators, and policymakers, and more broadly our new America.

Some innovations are deeply connected to technology. In particular, the increasing capacity of artificial intelligence (AI) to process data and make recommendations for a path forward is starting to penetrate early childhood. From wearables, assessment, nudges, and learning pathways, AI will likely power the future of early childhood as much as it will power all other aspects of our lives.

However, innovations are not all technology-based. There are exciting innovations in distribution and platform models, in new workforce and parental engagement, in new ways to foster adult-child interactions, in new policies, and in new modes of collaboration.

We have highlighted a few innovations happening—for children, parents, educators, policymakers, and beyond, illustrative of the burgeoning innovation across the country and globally. While this list is in no way complete, and we highlight many of our own investments, we hope it is a starting place of much more to come.

FOR OUR NEW LITTLE LEARNERS

Innovations that reach each and every child

Various innovations are emerging to increase access to quality solutions to each and every child—English language learners, children with special needs, refugees, or children in rural areas. While these efforts are nascent, we are excited about the potential this trend holds.



DID YOU KNOW?

CHILDREN WHO DON'T ATTEND PRESCHOOL ARE DEVELOPMENTALLY BEHIND BY ALMOST A YEAR OR MORE BY THE TIME THEY ENTER KINDERGARTEN. 60% OF FOUR-YEAR-OLDS ARE NOT ENROLLED IN PUBLICLY FUNDED PRESCHOOL PROGRAMS.

DUAL LANGUAGE LEARNERS



Genius Plaza is a multicultural education platform built for diverse communities that provides an engaging, practical, and research-based curriculum in which students are the protagonists of their learning.

REFUGEE CHILDREN



With funding from the John D. and Catherine T.



MacArthur Foundation and the LEGO Foundation, Sesame Workshop is partnering with the International



Rescue Committee and BRAC to deliver quality early learning to children affected by the Syrian and Rohingya refugee crises.

LEARNERS WITH SPECIAL NEEDS



Opya helps with detection and care of autism and other special needs through a combination of technology and access to treatment and research.

LEARNERS IN RURAL AREAS



Waterford | **UPSTART**

UPSTART is an in-home,

technology-based program that gives preschool-aged children individualized reading, math, and science instruction. This evidence-based program is particularly effective in rural areas with lower population density.

Innovations that individualize learning

Adaptive technologies and artificial intelligence are increasingly responding to where children are in their development. This includes helping them grow at their own pace and across multiple environments such as at home or in early learning centers.



DID YOU KNOW?

INCREASING NUMBERS OF YOUNG CHILDREN WITH DIAGNOSED DISABILITIES AND UNIQUE LEARNING NEEDS ARE ENROLLED IN EARLY CHILDHOOD PROGRAMS. INDIVIDUALIZING LEARNING CAN HELP INSTRUCTION AT DIFFERENT LEVELS IN A CLASSROOM ENVIRONMENT.

ADAPTIVE LEARNING



Khan Academy Kids Khan Academy Kids is a

platform for children 2-5 that supports personalized learning through individual paths that dynamically adapt. Each child is presented with activities, books, educational videos, and creative lessons that allow them to learn at their own pace, creating a unique experience for every learner.

ARTIFICIAL INTELLIGENCE



IBM and Sesame Workshop are collaborating to combine Watson's cognitive computing with Sesame's early childhood expertise. The first cognitive vocabulary app built on the IBM and Sesame intelligent play and learning platform has helped the teachers at Georgia's Gwinnett County Public Schools level the playing field for children through a fun and personalized environment.

FOR OUR NEW LITTLE LEARNERS

Innovations that inspire creativity and play

Early social-emotional skills are linked with a wide array of positive adult outcomes, including positive mental health, interpersonal relationships, educational attainment, civic engagement, productive employment, and physical health in later life.



DID YOU KNOW?

98% OF KINDERGARTNERS SCORE AS CREATIVE GENIUSES, WHILE ONLY 3% OF PEOPLE REMAIN IN THAT CATEGORY BY AGE 25. K-12 STUDENTS HAVE SIGNIFICANTLY DECREASED IN THEIR TORRANCE CREATIVITY SCORES SINCE 1990, WITH SCORES DECREASING THE MOST AMONG KIDS IN KINDERGARTEN TO THIRD GRADE.

AT SCHOOL

OPERATION Breakthrough Operation Breakthrough's MakerSpace in Kansas (70% of families make less than \$12,000/year) promotes creativity through the use of real materials to tinker, problem solve, collaborate, and create. The six zones include textiles, construction/toy hacking, studio arts, chef's corner, the green screen, and code world/robotics. These areas provide a creative outlet as well as opportunities to practice problem-solving.

OUTSIDE OF SCHOOL



Tinkergarten offers play-based classes outdoors in parks through a distributed network of leaders and has reached over 150,000 children across every US state.

Innovations that support acquisition of future skills, competencies, and mindset

With more emphasis on the four Cs of learning—critical thinking, creativity, collaboration, and communication—innovations are emerging across the online and offline worlds to engage our youngest children and develop future skills, competencies, and mindsets.



DID YOU KNOW?

RESEARCH ACROSS 1,000 CHILDREN BORN IN DUNEDIN, NEW ZEALAND IN THE EARLY 1970S, SHOWED THAT CHILDREN WITH STRONG NONCOGNITIVE CAPACITIES GO ON TO COMPLETE MORE YEARS OF EDUCATION AND EXPERIENCE BETTER HEALTH.

COMPUTATIONAL THINKING



Osmo is a playful learning company creating a new mode of interaction between the physical and digital worlds. The technology enables physical objects to interact with the digital device coupling the best of hands-on learning with the adaptive power of a device across a spectrum of early skills, including computational thinking.

LANGUAGE ACQUISITION



In cooperation with a consortium of European universities and companies, researchers at Tilburg University are developing a social robot that is designed to interact naturally with young children to help them learn English or Dutch.

EARLY STEM



CodeSpark has a word-free interface, with no reading requirement, making learning to code accessible to pre-readers and non-English speakers. It is offered for free in public schools, libraries, and to nonprofits.

EXPERIENTIAL LEARNING



Several models of experiential learning are emerging—such as TinyTrees offering outdoor classrooms in the Seattle area and Kids Science Labs, which offers engaging, hands-on STEM classes in several states for children as young as 2 years old.

FOR OUR NEW GENERATION OF EDUCATORS AND CAREGIVERS

Innovations that reimagine curricula focused on the whole child

Enhanced curricula are emerging anchored in the science of learning, including active learning, integration of socioemotional learning and executive functions, and a focus on the needs of diverse learners.



DID YOU KNOW?

THE TWO WIDELY USED CURRICULA, CREATIVE CURRICULUM AND HIGH SCOPE (USED IN 72% OF HEAD START CLASSROOMS), "LACK EMPIRICAL SUPPORT FOR EFFECTIVENESS."

BLENDED, ACTIVE LEARNING + CULTURALLY RELEVANT CONTENT



Genius Plaza is a multi-cultural education platform built for diverse communities providing an engaging, practical, and research-based curriculum in which students are the protagonists of their learning.

EARLY MATHS



Building Blocks is a project that the National Science Foundation (NSF) has funded to create mathematics curriculum materials for young children.

EXECUTIVE FUNCTIONS



TOOLS
OF THE
MIND

Tools of the Mind gives teachers the tools to ensure every child becomes a successful learner, developing the underlying cognitive, social, and emotional skills needed to reach his or her highest potential.

COGNITIVE + SEL



AppleTree Every Child Ready by AppleTree is an award-winning, comprehensive instructional model that helps all children thrive. It is a three-tier response-to-intervention model that creates a fun and interesting learning experience that is currently reaching more than 3,400 children.

Innovations that increase efficiency (for administrative tasks)

A new generation of educators and caregivers is increasingly becoming digital savvy or digital natives. Solutions are emerging, such as classroom management systems, messaging to parents, or voice recognition, to allow teachers to spend less time on administrative tasks and more time on pedagogy.

STREAMLINE ADMINISTRATIVE TASKS AND INCREASE PARENTAL ENGAGEMENT



Brightwheel's mobile app helps pre-K teachers and care providers to manage their business, while sending parents updates about their kids throughout the school day. The app handles payments, and records sign-in and sign-out data when parents drop off or pick up kids at school. Caregivers can also use it to share photos and information with parents through a secure platform. 80% of teachers and directors report saving 1-5 hours per week by using Brightwheel.

LEVERAGE VOICE RECOGNITION FOR GREATER EFFICIENCY



The team at Arkansas Early Learning Head Start and Early Head Start has leveraged voice recognition technology, combined with machine learning to allow for new applications, such as accident tracking and reporting, so that teachers can complete administrative tasks hands-free.



DID YOU KNOW?

THE AVERAGE EARLY CHILDHOOD EDUCATOR SPENDS 12 HOURS PER WEEK ON NON-TEACHING DUTIES.

FOR OUR NEW GENERATION OF EDUCATORS AND CAREGIVERS

Innovations that support and elevate the early childhood workforce

The quality of any early learning setting is directly related to the training and work satisfaction of its staff. Some innovations seek to support education and training while others provide pathways for greater pay or access to affordable financial services.



DID YOU KNOW?

THE NATIONAL MEDIAN ANNUAL WAGE FOR PRESCHOOL TEACHERS WAS \$28,570 IN 2016, HALF OF WAGES EARNED BY KINDERGARTEN TEACHERS. IN ALL STATES, MEDIAN ANNUAL EARNINGS FOR THE CHILD CARE WORKFORCE WOULD QUALIFY A WORKER WITH A FAMILY OF THREE FOR SOCIAL BENEFITS.

DEBT-FREE COLLEGE FOR TEACHERS



Arizona Teachers Academy and Debt-Free Teachers Program at the University of Oklahoma cover tuition and fees for prospective teachers. In return, recipients agree to teach in Arizona or Oklahoma for a period of time.



FREE DEGREES FOR TEACHERS



Bright Horizons launched in October 2018 a free college tuition program for early educators that will allow employees to earn an associate and bachelor's degree in early childhood education for free.

PEER-TO-PEER EDUCATOR LEARNING



PBS KIDS Edcamp is a participant-driven model of professional learning and community building that provides early childhood educators with a space to connect, share similar challenges and concerns, learn new ideas, and get inspired. PBS piloted 31 PBS KIDS Edcamps in 2017-18 in partnership with PBS member stations across the country and the Edcamp Foundation.

AFFORDABLE HOME LOANS



Landed helps educators buy homes in expensive areas, a service that allows educators to live closer to work. In the future, we see the potential to leverage this kind of service for home-based child care.

Innovations that empower the early childhood workforce

Platforms are being used to coordinate distributed workforces by managing overhead and providing shared resources. This has helped to power small, home- and community-based child care and education approaches in early childhood.



DID YOU KNOW?

BY 2027 THE MAJORITY OF THE US WORKFORCE WILL FREELANCE.



NETWORKED ECOSYSTEM



Wildflower is an ecosystem of decentralized Montessori micro-schools. Wildflower schools are 1-2 room schools with the faculty both teaching and administering the school. Wildflower teachers-leaders are partners and social entrepreneurs, responsible primarily to themselves and each other for every aspect of their school and its overall success.

DISTRIBUTED FREELANCE



Tinkergarten is a tech-enabled network of parents that lead classes in their communities in which kids learn through intentionally designed, outdoor play-based activities.

MARKETPLACE



Wonderschool helps educators and child care providers start and grow their own preschools or child care programs out of their home. For parents, Wonderschool is a network of modern early education programs that makes it easy to find and enroll in quality in-home programs.

FOR OUR NEW GENERATION OF PARENTS AND EDUCATORS

Innovations that connect and inform

New platforms targeted toward Gen Y and Gen Z parents are connecting and addressing needs and wants of modern parents.

BUILD COMMUNITY



ParentsTogether

Leveraging Facebook Messenger and mobile messaging, ParentsTogether provides resources, connections, and community that help all kids and parents thrive.

CONNECT



Peanut shows other moms nearby, and makes it easy for them to meet, reducing social isolation for new moms.

LIVE REMOTELY



Caribu lets families read and draw while spending time together in a real-time video call—particularly well-suited for military families.

FIND INFORMATION



Winnie helps create and organize information parents need, especially helping them find suitable child care and local activities/offerings.



DID YOU KNOW?

95% OF MILLENNIAL MOMS OWN A SMARTPHONE VS. 87% OF NON-MOMS. NEARLY 90% OF US MOTHERS ARE SOCIAL NETWORK USERS.

Innovations that nudge

Behavioral science sits at the intersection of academic fields like economics, psychology, and neuroscience and helps us understand why people behave the way they do. Organizations are leveraging behavioral insights to nudge parents and caregivers about their interactions with children and help them set and achieve family goals.



DID YOU KNOW?

TEXT MESSAGES TO PARENTS HAVE BEEN EVIDENCED TO HAVE UP TO 2-3 MONTHS OF LITERACY IMPROVEMENT AND INCREASED PARENTAL ENGAGEMENT IN THE SAN FRANCISCO UNIFIED SCHOOL DISTRICT.

TEXT MESSAGES

Ready4K

Developed by Stanford-trained behavioral scientists, Ready4K sends helpful information about supporting a child's learning through text messages to parents at regular intervals throughout the week. This helps nudge parents toward habits and behaviors that facilitate the growth and development of their child.

MULTI-PLATFORM



Vroom empowers parents and caregivers to play a proactive role in their children's early brain development through fun and easy activities, turning shared, everyday moments into brain-building moments. Vroom empowers parents to see what they are already doing to support their child's brain development and encourages more of it.

ACTIVITY-BASED APP



Kinedu is an app which builds personalized plans for directed play and real-life interactions.

GOAL-SETTING APP



HOPELAB

Developed in partnership with HopeLab, the Goal Mama app helps moms keep track of their most important goals, access parenting and pregnancy information, and connect with other moms and their nurse—for moms enrolled in the Nurse-Family Partnership. After a promising pilot phase, it is currently being tested for efficacy.

FOR OUR NEW GENERATION OF PARENTS AND EDUCATORS

Innovations that assess

New tools are easing the burden of observing, tracking, and diagnosing a young child's development in school, at home, or in pediatrician office settings to help educators, parents, and pediatricians know how best to support and develop young children.



DID YOU KNOW?

1 IN 4 KIDS IN THE UNITED STATES IS AT RISK FOR DEVELOPMENTAL DELAYS.

OBSERVATIONAL ASSESSMENT



Learning Genie provides flexible portfolio and assessment rating tools for child development observation, documentation, and assessment rating. Parents are able to easily engage in their children's learning, tracking their progress over time. Personalized lesson plans help teachers in delivering learning.

COGNITIVE ASSESSMENT



Cognitive ToyBox has developed touch-screen games that make it easier for teachers to do assessments and for children to learn foundational language and math skills. Cognitive ToyBox was spun out of research from a National Science Foundation I-Corps grant in 2015 from NYU.

EXECUTIVE FUNCTION ASSESSMENT



Founded at the University of Minnesota, Reflections Sciences provides the Minnesota Executive Function Scale (MEFS) app and related tools to help promote the healthy development of Executive Function in young children globally.

HEALTH SCREENING



BabyNoggin is an app platform that screens for physical, mental, and social-emotional delays and postpartum depression using validated tools such as the ASQ. Parents self-screen and the results are automatically scored and connected to their pediatricians' or schools' electronic records. All tools in BabyNoggin are reimbursable by health insurance.

Innovations that track

The Internet of Things and voice recognition are being applied to early childhood in interesting ways to track words spoken, body changes, and child interactions, with the goal of helping understand how children learn and interact with other children or adults and educators.

SENSORS FOR LANGUAGE AND QUALITY



LENA technology measures interactive talk between caregivers and children birth to age 3, with a small, child-safe recorder worn in a vest. Recordings are then translated into data and distilled into key insights for families to act upon to improve talk environments for their children. Children whose parents participated in LENA Start are enjoying 130 more conversations in their daily diet and gaining nearly two months of developmental skill every month. The technology is now being applied in child-care settings as well.

VOICE ANALYSIS FOR AUTOMATED FEEDBACK



Earshot has developed a voice analysis technology, combined with machine learning, to automate individual teacher feedback. Data points elevate teacher awareness around key criteria, including question strategy, talk time, and wait time.

SENSORS FOR INTERACTIONS



In partnership with MIT Labs, Wildflower Schools has recently been piloting small, low-power sensors that are placed in children's shoes and classroom materials. The sensors are used to detect the moments in the classroom when children, teachers, materials, and classroom areas were near each other. This proximity data is used to determine when educational and social interactions are happening, and provide rich observational data to teachers.



DID YOU KNOW?

OVER 20 BILLION DEVICES ARE NOW CONNECTED TO THE INTERNET.

FOR OUR NEW AMERICA

Innovations that leverage policy to provide early learning solutions

Across the US, many new policies are being tested to promote evidence-based strategies in early childhood.



DID YOU KNOW?

18 GOVERNOR-ELECTS TALKED ABOUT EARLY CARE AND EDUCATION ON THE 2018 CAMPAIGN TRAIL. THE FOUR MOST PROMINENT ISSUES WERE PRE-K, FUNDING FOR EARLY CARE AND EDUCATION, THE COST OF CHILD CARE, AND KINDERGARTEN.

VERMONT



Let's Grow Kids is on a mission to ensure Vermont families have affordable access to high-quality child care by 2025. LGK is building a high-quality system and pursuing sweeping policy change to secure a sustainable quality early childhood education system—with potential to inspire other states.

GEORGIA



Georgia was one of five states selected in late 2016 to promote two-generation strategies in state policy and is implementing policy changes to promote children's learning and healthy development while also promoting parental success as caregivers and breadwinners.

MINNESOTA

The Minnesota Model is a research-based approach for investing early to promote the success of the most vulnerable children and families. It consists of home-visiting nurses and mentors, and early learning scholarships for parents to select from high-quality Early Childhood Education programs.

BOSTON



The Basics are five evidence-based parenting and caregiving principles that encompass much of what experts find is important for children from birth to age 3. Every child from every background can benefit from routinely experiencing the Basics learning experiences.

Innovations for new design and collaboration

New designs and inspiring forms of collaboration with collective, local community-level impact and a focus on outcomes, are potential catalysts for better-quality solutions for children and families. They also act as a showcase for societal commitment for greater investments in early childhood.



DID YOU KNOW?

RECENT RESEARCH ACROSS 25 COLLECTIVE IMPACT ORGANIZATIONS DETERMINED THAT “COLLECTIVE IMPACT UNDOUBTEDLY CONTRIBUTED TO CHANGES AT SCALE WITHIN INITIATIVES’ TARGETED PEOPLE OR PLACES.”

LEARNING LANDSCAPE



Playful Learning Landscapes involves crafting carefully planned play experiences that

focus on learning outcomes, particularly for children and families from under-resourced communities. The aim is to transform everyday places into learning opportunities in order to maximize the “other 80%” of time children spend outside of school and to augment what goes on in school.

COLLECTIVE IMPACT



Organizations like StriveTogether and



Campaign for Grade-Level Reading are working with communities on advancing impact through data, solutions, and local collaboration.

COMMUNITY-LED OUTCOME METRICS



Head Start, the federally funded provider of early childhood to lower-income



brighthive

children, has partnered with BrightHive to build community-led outcome metrics and data-driven decision-making.

Looking Forward: From Scarcity to Possibility

The Next 50 Years

The early childhood field has already shined a pathway for what quality education is and for what our future of learning is, by integrating parental engagement, health, and socioemotional learning as core pillars. While the K-12 sector is catching up, more investments in those areas in early childhood to promote the vision of whole child learning will continue to be critical.

As outlined in this report, while innovations are bubbling up in many areas serving children and families, there are some notable gaps where we aspire to see more: trauma-informed interventions (for children, parents, and educators), workforce (professional development and compensation notably), home-based child care (and specifically

friends, family, and neighbors), multigenerational education supports that accelerate families, assessment, and measurement for what quality is. Those are all areas where we hope to see more talent and capital support innovation in the future.

We are excited about what the next 50 years of innovation will bring for our youngest learners. Let's together harness the power of science, innovation, and design for scale, combined with access to all types of support and capital, to help pave the way for innovative early childhood solutions that positively impact a new generation of early learners.

Let's build the future of our children and families together. Let's move from scarcity to possibility.

This report was produced by Omidyar Network's Education initiative, whose mission is to unlock human potential through learning by catalyzing people, ideas, and systems—so every individual thrives and contributes in a changing and interdependent world.

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Sources

Page 2-3

Golinkoff, Roberta M. & Hirsh-Pasek, Kathy (May 2016). Becoming Brilliant: What Science Tells Us About Raising Successful Children. <https://www.mother.ly/child/becoming-brilliant-the-6-essential-skills-children-need-to-become-successful-adults>

Pritzker, J. B., Bradach, Jeffrey L., Kaufmann, Katherine (October 2015). Achieving Kindergarten Readiness for All Our Children: A Funder's Guide to Early Childhood Development from Birth to Five. <https://www.bridgespan.org/insights/library/childrenyouth-and-families/early-childhood-funderguide-2015>

Scott, Lee A. (September 2017). Partnership for 21st Century Skills, 21st Century Skills Early Learning Framework. <http://www.p21.org/>, http://www.p21.org/storage/documents/EarlyLearning_Framework/P21_ELF_Framework_Final.pdf

The World Economic Forum (2016). The Future of Jobs Report. <http://reports.weforum.org/future-of-jobs-2016/chapter-1-the-future-of-jobs-and-skills/>

The World Bank (October 2018). The Human Capital Project. <http://www.worldbank.org/en/publication/human-capital>

Page 5

Shonkoff, Jack (April 2017). Five Numbers to Remember About Early Childhood Development. Center on the Developing Child at Harvard University. <https://developingchild.harvard.edu/resources/five-numbers-to-remember-about-early-childhood-development/>

NEURAL CONNECTIONS FORMED

Shonkoff, Jack (April 2017). Five Numbers to Remember About Early Childhood Development. Center on the Developing Child at Harvard University. <https://developingchild.harvard.edu/resources/five-numbers-to-remember-about-early-childhood-development/>

RETURN ON INVESTMENT PROVED

Heckman, James J. (December 2016). The 13% ROI Research Toolkit. The Economics of Human Potential. <https://heckmanequation.org/resource/13-roi-toolbox/>

COGNITIVE OUTCOMES ACHIEVED

Gorey, Kevin M. (March 2001). Early Childhood Education: A Meta-Analytic Affirmation

of the Short- and Long-Term Benefits of Educational Opportunity. School Psychology Quarterly. https://www.researchgate.net/publication/263913248_Early_Childhood_Education_A_Meta-Analytic_Affirmation_of_the_Short-_and_Long-Term_Benefits_of_Educational_Opportunity

VOCABULARY DISPARITY INCREASED

Hart, Betty & Risley, Todd (1995). Meaningful Differences in the Everyday Experience of Young American Children. <https://www.leadersproject.org/2013/03/17/meaningful-differences-in-the-everyday-experience-of-young-american-children/>

DEVELOPMENTAL DELAYS EXPERIENCED

American Academy of Pediatrics (2017). Adverse Childhood Experiences: What Happens Early Can Change Lives. <https://www.aap.org/en-us/advocacy-and-policy/aap-health-initiatives/EBCD/Documents/ebcdEdModules/powerpointModule3.pdf>

Shonkoff, Jack (2016). InBrief: The Impact of Early Adversity on Children's Development. Center on the Developing Child at Harvard University. Statistics from research from Barth, et al. (2008). <https://developingchild.harvard.edu/resources/inbrief-the-impact-of-early-adversity-on-childrens-development/>

DID YOU KNOW?

Hart, Betty & Risley, Todd (1995). Meaningful Differences in the Everyday Experience of Young American Children. <https://www.leadersproject.org/2013/03/17/meaningful-differences-in-the-everyday-experience-of-young-american-children/>

Kamenetz, Anya (June 2018). National Public Radio Education. Let's Stop Talking About The '30 Million Word Gap'. <https://www.npr.org/sections/ed/2018/06/01/615188051/lets-stop-talking-about-the-30-million-word-gap>

Pritzker, J. B., Bradach Jeffrey L., Kaufmann, Katherine (October 2015). Achieving Kindergarten Readiness for All Our Children: A Funder's Guide to Early Childhood Development from Birth to Five. <https://www.bridgespan.org/insights/library/childrenyouth-and-families/early-childhood-funderguide-2015>

Page 6

PUBLIC FUNDING +17% SINCE 2016

Estimated public funding as sum of State Pre-K, CCDBG, Head Start, other federal early childhood funds (Preschool Development Grants, special education funding for infants and toddlers; Ready to Learn Television), and CCAMPIS:

- 2016 estimated total: \$23.0Bn; 2017

estimated total: \$23.7Bn, 2018 estimated total: \$26.9Bn

- State Pre-K:
 - 2015-2017 - <https://www.ecs.org/wp-content/uploads/State-Pre-K-Funding-2016-17-Fiscal-Year-Trends-and-opportunities-1.pdf>
 - 2017-2018 - Education Commission of the States, analysis of pre-published data
- CCDBG, Head Start, federally-funded early childhood programs and CCAMPIS
 - 2016 - <https://www.acf.hhs.gov/occ/resource/fiscal-year-2016-federal-child-care-and-related-appropriations>
 - 2017 - <https://www.acf.hhs.gov/occ/fiscal-year-2017-federal-child-care-and-related-appropriations>
 - 2018 - <https://www.acf.hhs.gov/occ/resource/fiscal-year-2018-federal-child-care-and-related-appropriations>

Joughin, Charles (October 2018). FFYF Analyzed Years of Polling and Found Unwavering Support for Greater Investment in ECE, First Five Years Fund. <https://www.ffyf.org/ffyf-analyzed-years-of-polling-andfound-unwavering-support-for-greaterinvestment-in-ece/>

National Center for Education Statistics (April 2018). Preschool and Kindergarten Enrollment. https://nces.ed.gov/programs/coe/indicator_cfa.asp

PRIVATE FUNDING BY FAMILIES

Childcare Aware (2018). The US and the High Cost of Child Care: A Review of Prices and Proposed Solutions for a Broken System. <http://usa.childcareaware.org/advocacy-public-policy/resources/research/costofcare/>

Editorial Staff (July 2018). This is how much child care costs in 2018. care.com <https://www.care.com/c/stories/2423/how-much-does-child-care-cost/>

Moe, Michael, Quazzo, Deborah (Fall 2015). GSV, 2020 Vision: A History of the Future. U.S. Census Bureau, Investing in Children (Kornrich + Furstenberg, 2013), GSV Asset Management. <http://gsv.com/2020-vision/>

Whitehurst, Grover J. (Russ) (March 2017). Why the federal government should subsidize childcare and how to pay for it, The Brookings Institution. <https://www.brookings.edu/research/why-the-federal-government-should-subsidize-childcare-and-how-to-pay-for-it/>

20% OF LARGE EMPLOYERS NOW PROVIDE CHILD CARE

Hamilton, Brady (May 2018). U.S. Department of Health and Human Services. National Vital

Statistics System. <https://www.cdc.gov/nchs/data/vsrr/report004.pdf>

National Study of Employers (2017). <https://www.shrm.org/hr-today/trends-and-forecasting/research-and-surveys/Documents/National%20Study%20of%20Employers.pdf>

Starbucks (April 2018). New Starbucks benefit offers backup child and adult care. <https://news.starbucks.com/news/new-starbucks-benefit-offers-backup-child-and-adult-care>

US National Chamber of Commerce Foundation (2017). For Childcare Reform, Working Parents Look to Employers. <https://www.uschamberfoundation.org/center-education-and-workforce/graphic-childcare-reform-working-parents-look-employers>

Page 7

NEW BRAIN IMAGING TECHNOLOGY

Kuhl, Patricia K. (2018). MEG Brain Imaging at I-Labs. Institute for Learning & Brain Science, University of Washington. <http://ilabs.washington.edu/meg-brain-imaging-i-labs>

BIOMARKERS

ACEs Connection (October 2018). The quest to find biomarkers for toxic stress, resilience in children — A Q&A with Jack Shonkoff. <https://www.acesconnection.com/blog/the-quest-to-find-biomarkers-for-toxic-stress-resilience-in-children>

JPB Research Network on Toxic Stress (2018). <https://developingchild.harvard.edu/science/the-jpb-research-network-on-toxic-stress/>

NEUROSEQUENTIAL MODEL OF THERAPEUTICS

Perry, Bruce, The ChildTrauma Academy (2010). Overview of the Neurosequential Model of Therapeutics. https://childtrauma.org/wp-content/uploads/2013/06/NMT_Description_Overview_6_22_12x.pdf

DID YOU KNOW?

The National Survey of Children's Health (2016). <http://www.childhealthdata.org/learn-about-the-nsch/NSCH>

Page 8

Frey, William H. (June 2018). US white population declines and Generation 'Z-Plus' is minority white, census shows. Based on US Census Data released in June 2018. <https://www.brookings.edu/blog/the-avenue/2018/06/21/us-white-population-declines-and-generation-z-plus-is-minority-white-census-shows/>

Livingston, Gretchen (2018). More than a million Millennials are becoming moms each year. Pew Research. <http://www.pewresearch.org/fact-tank/2018/05/04/more-than-a-million-millennials-are-becoming-moms-each-year/>

<https://www.cnsnews.com/news/article/terence-p-jeffrey/24-states-50-babies-born-medicaid>

Page 9

US National Chamber of Commerce (2017). Leading the Way: A Guide for Business Engagement in Early Education. https://www.uschamberfoundation.org/sites/default/files/Leading%20the%20Way_0.pdf

AMERICA'S WORKING PARENTS

Glynn, Sarah Jane (August 2012). Child Care: Families Need More Help to Care for Their Children. Center for American Progress. <https://www.americanprogress.org/issues/economy/news/2012/08/16/11978/fact-sheet-child-care/>

Glynn, Sarah Jane (December 2016). Breadwinning Mothers are Increasingly the U.S. Norm. Center for American Progress. <https://www.americanprogress.org/issues/women/reports/2016/12/19/295203/breadwinning-mothers-are-increasingly-the-u-s-norm/>

U.S. Department of Labor (2010). Women in the Labor Force in 2010 Factsheet. Bureau of Labor Statistics. <https://www.dol.gov/wb/factsheets/qf-laborforce-10.htm>

AMERICA'S CHILD CARE PRICE TAG

Whitehurst, Grover J. (Russ) (March 2017). Evidence Speaks Report: Why the federal government should subsidize childcare and how to pay for it. The Brookings Institution. <https://www.brookings.edu/research/why-the-federal-government-should-subsidize-childcare-and-how-to-pay-for-it/>

Schulte, Brigid & Durana, Alieza (September 2016). The New American Care Report. New America. <https://www.newamerica.org/better-life-lab/press-releases/new-index-measuring-us-child-care/>

AMERICA'S CHILD CARE OPTIONS

Neel, Joe (2016). National Public Radio. NPR Poll: Are Parents Overrating the Quality of Child Care? <http://www.npr.org/sections/healthshots/2016/10/17/497942331/npr-poll-are-parents-overrating-the-quality-of-child-care>

National Institute of Child Health and Human Development (2006). The NICHD Study of Early Child Care and Youth Development.

https://www.nichd.nih.gov/sites/default/files/publications/pubs/documents/secscy_06.pdf

Malik, Rasheed & Hamm, Katie (August 2016). Child Care Deserts: An Analysis of Child Care Centers by ZIP Code in 8 States. Center for American Progress. <https://www.americanprogress.org/issues/early-childhood/reports/2016/10/27/225703/child-care-deserts/>

AMERICA'S STUDENT PARENTS

Gault, Barbara, Reichlin Cruse, Lindsey, Reynolds, Elizabeth, Froehner, Meghan (November 2014). The Institute for Women's Policy Research. <https://iwpr.org/publications/4-8-million-college-students-are-raising-children/>

DID YOU KNOW?

Stevens, Katharine B. (June 2017). Workforce of Today, Workforce of Tomorrow: The Business Case for High-Quality Childcare. U.S. Chamber of Commerce Foundation. <https://www.uschamberfoundation.org/reports/workforce-today-workforce-tomorrow>

Page 10

GEN Y AND GEN Z

Adweek (2018). Report: 90% of Millennial Parents Find Social Media Helpful. <https://www.adweek.com/digital/report-90-of-millennial-parents-find-social-media-helpful/>

Barkley US (2018). The Millennial Parenthood Brief, Inside the Life of Modern Parents. <https://www.barkleyus.com/millennialparents/>

Claveria, Kelvin (2018). Unlike Millennials: 5 ways Gen Z differs from Gen Y. VisionCritical. <https://www.visioncritical.com/gen-z-versus-millennials-infographics/>

Fry, Richard (2018). Millennials Are The Largest Generation in US Labor Force. Pew Research. <http://www.pewresearch.org/fact-tank/2018/04/11/millennials-largest-generation-us-labor-force/>

Livingston, Gretchen (May 2018). More than a million Millennials are becoming moms each year. Pew Research. <http://www.pewresearch.org/fact-tank/2018/05/04/more-than-a-million-millennials-are-becoming-moms-each-year/>

U.S. Department of Health and Human Services. Centers for Disease Control and Prevention, National Center for Health Statistics (2016). Table 3. Births, by age (years) of mother, live-birth order, and race and Hispanic origin of mother: United States,

2016—Con. Data. https://www.cdc.gov/nchs/data/nvsr/nvsr67/nvsr67_01.pdf

DID YOU KNOW?

Common Sense Media (2017). The Common Sense Census: Media Use by Kids Age Zero to Eight. https://www.common Sense Media.org/sites/default/files/uploads/research/csm_zerotoeight_fullreport_release_2.pdf

Page 11

Terence, Jeffrey P. (May 2017). In 24 States, 50% or More of Babies Born on Medicaid; New Mexico Leads Nation with 72%. CNSNews and Kaiser Family Foundation.

DIVERSITY

National Center of Education Statistics (2018). Estimates of Resident Population, by Race/Ethnicity and Age Group: Selected years, 1980 through 2017. https://nces.ed.gov/programs/digest/d17/tables/dt17_101.20.asp?current=yes

Yoshinaga, Kendra (April 2016). National Public Radio. Babies Of Color Are Now The Majority, Census Says. <https://www.npr.org/sections/ed/.../babies-of-color-are-now-the-majority-census-says>

MIGRATION

Huff, Lindsay (May 2018). US News, Immigration in America by the Numbers. <https://www.usnews.com/news/data-mine/articles/2018-05-01/immigration-in-america-by-the-numbers>

Pew Research Center. Global Attitudes & Trends (November 2016). "International Migrants by Country." <http://www.pewglobal.org/interactives/migration-tables/>

United Nations, Department of Economic and Social Affairs, Population Division (2018). International Migrant Stock: The 2017 Revision. <http://www.un.org/en/development/desa/population/migration/data/estimates2/estimates17.shtml>

DID YOU KNOW?

National Center for Education Statistics (April 2018). English Language Learners in Public Schools. https://nces.ed.gov/programs/coe/indicator_cgf.asp

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INNOVATION FUNDING ON THE RISE IN EARLY CHILDHOOD

Pitchbook data. Seed through Series D financing in early childhood; annualized for 2018, as of October 2, 2018. Note: this analysis begins as of 2016, while recognizing a large investment was made in early childhood

innovation in 2015 with \$150M invested in Age of Learning (ABC Mouse).

YET, MAJOR GAP REMAINS RELATIVE TO LATER AGE GROUPS

Tracxn analyst data, 2017 annualized as of August 2017.

DID YOU KNOW?

Early Futures convening (November 27 & 28, 2018). <https://earlyfutures.splashthat.com/>

Page 14

PHILANTHROPY

Kaufmann, Katherine, Brookhiser, Laura & Seeman, Bradley (August 2018). Collaborating Towards Kindergarten Readiness at Scale - A Funder Group Case Study. The Bridgespan Group. <https://www.packard.org/wp-content/uploads/2018/08/Collaborating-Towards-Kindergarten-Readiness-at-Scale-Report-1.pdf>

VENTURE CAPITAL

Crunchbase (May 2018). Teaching Strategies LLC acquired by Summit Partners. <https://www.crunchbase.com/acquisition/summit-partners-acquires-teaching-strategies--79706556>

PRNewswire (August 2018). Wonderschool Closes \$20 Million in Series A Financing to Help Teachers Start High-Quality In-Home Preschools and Daycares. <https://www.prnewswire.com/news-releases/wonderschool-closes-20-million-in-series-a-financing-to-help-teachers-start-high-quality-in-home-preschools-and-daycares-300695254.html>

PRNewswire (October 2018). Brightwheel Raises \$21M to Expand the #1 Early Education Platform - Series B Investment led by Bessemer Venture Partners. https://www.prweb.com/releases/brightwheel_raises_21m_to_expand_the_1_early_education_platform/prweb15802334.htm

INNOVATION PRIZES

To learn more about the Early Childhood Innovation Prize, visit www.garycommunity.org/ec-prize

Page 15

DIGITAL DEVICE PENETRATION NOW UBIQUITOUS AND MOBILE MEDIA USAGE RISING

Common Sense Media (2017). The Common Sense Census: Media Use by Kids Age Zero to Eight. https://www.common Sense Media.org/sites/default/files/uploads/research/csm_zerotoeight_fullreport_release_2.pdf

QUANTITY: SCREEN GUIDELINE

American Academy of Pediatrics (October 2016). American Academy of Pediatrics Announces New Recommendations for Children's Media Use. <https://www.aap.org/en-us/about-the-aap/aap-press-room/Pages/American-Academy-of-Pediatrics-Announces-New-Recommendations-for-Childrens-Media-Use.aspx>

QUALITY: RESPONSIBLE TECH

Barr, Rachel, McClure, Elisabeth & Parlakian, Rebecca (October 2018). What the Research Says About the Impact of Media on Children Aged 0-3 Years Old. Zero to Three. <https://www.zerotothree.org/resources/2536-what-the-research-says-about-the-impact-of-media-on-children-aged-0-3-years-old#downloads>

Educational App Store (March 2018). Helping Parents Choose Quality Apps for Kids. <https://www.educationalappstore.com/blog/helping-parents-choose-quality-apps-for-kids/>

DID YOU KNOW?

Common Sense Media (2017). The Common Sense Census: Media Use by Kids Age Zero to Eight. pp6 and 24. https://www.commonsensemedia.org/sites/default/files/uploads/research/csm_zerotoeight_fullreport_release_2.pdf

Page 18

DID YOU KNOW?

Sanchez, Claudio & Turner, Cory, National Public Radio (April 2014). What Exactly Is 'High-Quality' Preschool? <https://www.npr.org/sections/ed/2014/04/22/304563233/what-exactly-is-high-quality-preschool>

U.S. Department of Education (April 2015). A Matter of Equity: Preschool in America. <https://www2.ed.gov/documents/early-learning/matter-equity-preschool-america.pdf>

Page 19

DID YOU KNOW?

McFarland, Joel (April 2018). Condition of Education 2018. U.S. Department of Education. https://nces.ed.gov/programs/coe/indicator_cgg.asp and <https://www.usnews.com/news/education-news/articles/2018-06-06/special-education-students-on-the-rise>

Page 20

DID YOU KNOW?

Kim, Kyung Hee (November 2011). The Creativity Crisis: The Decrease in Creative Thinking Scores on the Torrance Tests of Creative Thinking. Creativity Research Journal. <https://www.tandfonline.com/doi/abs/10.1080/10400419.2011.627805>

Page 21

DID YOU KNOW?

Starr, Douglas (February 2018). Featuring Avshalom Caspi, Terrie Moffitt and The Dunedin Multidisciplinary Health and Development Study, Science Magazine. <https://www.sciencemag.org/news/2018/02/two-psychologists-followed-1000-new-zealanders-decades-here-s-what-they-found-about-how>

Page 22

DID YOU KNOW?

Bustamante, Andres S., Hirsh-Pasek, Kathy & Golinkoff, Roberta M. (June 2017). The premature death of the whole-child approach in preschool - Rich curriculum is not incompatible with a playful pedagogy. The Brookings Institution. <https://www.brookings.edu/blog/education-plus-development/2017/06/08/the-premature-death-of-the-whole-child-approach-in-preschool/>

National Center for Education Research (2008). Effects of Preschool Curriculum Programs on School Readiness - Report from the Preschool Curriculum Evaluation Research initiative. https://ies.ed.gov/ncer/pubs/20082009/pdf/20082009_rev.pdf

Preschool Curriculum Consumer Report (2015). <https://eclkc.ohs.acf.hhs.gov/sites/default/files/pdf/curriculum-consumer-report.pdf>

Page 23

DID YOU KNOW?

Grayson, Lee (2016). The Average Hours a First-Year Kindergarten Teacher Works per Week. Chron. <https://work.chron.com/average-hours-first-year-kindergarten-teacher-works-per-week-27723.html>

Page 24

DID YOU KNOW?

U.S. Department of Education (February 2016). Fact Sheet: Troubling Pay Gap for Early Childhood Teachers. <https://www.ed.gov/news/press-releases/fact-sheet-troubling-pay-gap-early-childhood-teachers>

Page 25

DID YOU KNOW?

UpWork and Freelancers Union (October 2017). Freelancers predicted to become the U.S. workforce majority within a decade, with nearly 50% of millennial workers already freelancing, annual "Freelancing in America" study finds. <https://www.upwork.com/press/2017/10/17/freelancing-in-america-2017/>

Page 26

DID YOU KNOW?

Hope-Ross, Tracey (July 2015). How Motherhood Transforms Millennial Women. Influence Central Consumer Insights Group. <http://influence-central.com/how-motherhood-transforms-millennial-women/>

eMarketer (May 2017). More than 90% of US Moms Have a Social Media Account, And they're likely to be firing up Facebook. <https://www.emarketer.com/Article/More-than-90-of-US-Moms-Have-Social-Media-Account/1015883>

Page 27

DID YOU KNOW?

York, Benjamin N., Loeb, Susanna (November 2014, Revised in March 2018). One Step at a Time: The Effects of an Early Literacy Text Messaging Program for Parents of Preschoolers. The National Bureau of Economic Research. NBER Working Paper No. 20659. <https://www.nber.org/papers/w20659>

Page 28

DID YOU KNOW?

Magnusson, Dawn (October 2017). Some mothers may not seek early help for kids with developmental delays. University of Colorado Anschutz Medical Campus. <https://www.reuters.com/article/us-health-developmental-intervention-mot/some-mothers-may-not-look-for-early-help-for-kids-with-developmental-delays-idUSKBN1CL2NA>

Page 29

DID YOU KNOW?

Business Insider Intelligence (June 2016). There will be 24 billion IoT devices installed on Earth by 2020. <https://www.businessinsider.com/there-will-be-34-billion-iot-devices-installed-on-earth-by-2020-2016-5>

Page 30

LET'S GROW KIDS

More at: <https://www.letsgrowkids.org/>

THE MINNESOTA MODEL

Rolnick, Sharon J. & Rolnick, Art J. (February 2017). The Minnesota Model for Early Childhood Education.

https://www.minneapolisfed.org/-/media/files/community/2017-conference/papers-and-presentations/plenary/rolnick_paper_508.pdf?la=en

GEORGIA 2-GEN

Deal, Nathan & Jacobs, Amy M. (October 2016). Georgia Selected For Two-Generation State Policy Network. http://decal.ga.gov/documents/attachments/release_Two-Generations101316.pdf

BOSTON BASICS

More at: <http://boston.thebasics.org/>

DID YOU KNOW?

Loewenberg, Aaron (November 2018). Newly Elected Governors Make Early Education A Priority. New America. <https://www.newamerica.org/education-policy/edcentral/newly-elected-governors-make-early-education-priority/>

Page 31

DID YOU KNOW?

Stachowiak, Sarah & Gase, Lauren (August 2018). Does Collective Impact Really Make an Impact? Stanford Social Innovation Review. https://ssir.org/articles/entry/does_collective_impact_really_make_an_impact



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