

A Statement on EdTech and Education Policy during the Pandemic

August 11, 2020

We are approaching an educational crossroads, accelerated by the COVID-19 school closures and remote learning experiments of this spring. We cannot afford another year in which students become alienated from the learning process. Furthermore, the decisions and investments school districts make in the coming months will shape educational practices long after the pandemic ends.

The undersigned urge educators and policymakers to look beyond simplistic EdTech solutions, and find ways to limit children's time on computers and digital devices during the coming school year and beyond. We recognize that there is significant uncertainty about what school will look like in the fall and that education across the United States will look vastly different from state to state and district to district. Nevertheless, whether school is in-person, remote, or some combination thereof, educators should ensure that their curricula and assignments center on offline, high-engagement components such as hands-on, project- and place-based learning.

Seizing an opportunity to capture a larger portion of the \$10 trillion global education market,¹ for-profit EdTech vendors are selling families and policymakers the false premise that EdTech products offer effective and budget-friendly ways to learn. In reality, the products are costly to purchase and maintain, and frequently crowd teachers and staff out of the budget. The products also ensnare students, whose data and brand loyalty are harvested, and who often become targets of relentless marketing efforts. These efforts include the insidious practice of upselling, through which students and their families are pushed to purchase premium versions, thereby exacerbating inequalities among students. Equally important, these programs reduce the roles played by creative, compassionate teachers in educating the whole child. Learning happens best in the context of human relationships and is lost when the balance is skewed toward online platforms.

The value of quality, teacher-driven instruction is well-supported by research.² There is no credible research supporting industry claims that online, personalized learning programs improve academic outcomes.^{3,4} Test scores do not rise. Dropout rates do not fall. Graduation rates do not improve. In 2019, fewer than half of virtual and blended schools had “acceptable” state performance ratings, and only 30% of virtual schools associated with for-profit Education Management Organizations (EMO) managed to meet even that low bar.⁵ A study of millions of high school students in 36 countries by the Organisation for Economic Co-operation and Development (OECD) found that students who frequently used computers at school “do a lot worse in most learning outcomes, even after accounting for social background and student demographics.”⁶

EdTech is destined to underdeliver because of how the human brain reacts to screen-based

media. In short: the brain doesn't like it. Reading text on paper increases comprehension, retention, and sheer satisfaction with reading as an activity.⁷ Writing by hand boosts idea generation as well as retention.⁸ Children between the ages of 8 and 11 who spend more than two hours per day on screens perform worse on memory, language, and thinking tests than those who spend less time.⁹ The sensorimotor stimuli that screens offer are paltry compared to real life stimuli, and developing brains are more severely impacted by this disparity.¹⁰

Prolonged time on screens impairs more than just cognition; it is also hard on the body. Working on screens for long periods leads to digital eye strain – with symptoms including dry eye, headaches, and blurry vision – and increases the risk of myopia.^{11,12} Research has clearly established a link between increased screen time and worsened sleep for children and teens.¹³ A wealth of research also links screen exposure to childhood obesity.¹⁴

Additionally, EdTech platforms collect sensitive student data and require substantial time online, putting our children's personal safety at risk. A study of 150 EdTech apps and services found "widespread lack of transparency and inconsistent privacy and security practices for products intended for children and students."¹⁵ After investigating a series of data breaches that allowed hackers to use sensitive student data to "contact, extort, and threaten students with physical violence and release of their personal information," the FBI's Internet Crime Complaint Center warned in 2018 that EdTech poses threats to student privacy and safety, including "social engineering, bullying, identity theft, or other means for targeting children."¹⁶ That warning proved prescient. This spring, the FBI issued an additional warning to parents,¹⁷ and The National Center for Missing and Exploited Children received more than 4 million reports of online sexual abuse – an increase of nearly 3 million from April 2019.¹⁸ In addition, sensitive student data, once processed into "de-identified data," can be used for non-educational, profitable activities. Worse, de-identified data can be reconstituted as personally-identifiable data.¹⁹ Privacy laws have yet to catch up with technological know-how.

While EdTech is touted as a way to increase equity in schools, it falls short on that front as well. Ensuring that every family has free or low-cost internet access and all students who must learn from home have access to a device are critical and worthy goals, as the recent global pandemic has further revealed. There is no evidence, however, that 1:1 programs reduce the achievement gap between children from poor and wealthy families. Indeed, research has found that the introduction of internet access into low-income households actually results in lower academic achievement.²⁰ Programs to give low-income families access during the pandemic must be accompanied by tech-intentional and low-tech pedagogies.

For the safety, wellbeing, and academic potential of our children, reducing screen use during the pandemic has to be a priority – no matter the adopted reopening plan. Real, personalized learning can take place without overly relying on technology, especially algorithm-driven, computerized instruction. We urge educators to deepen learning for children during the pandemic with high-engagement, tech-intentional teaching and learning based on the following principles:

- **Limit screen time.** Use technology only when necessary for communication, collaboration, research, or facilitating creative expressions of student learning. Algorithm-driven adaptive learning platforms, gamified learning, and similar apps that incorporate persuasive design to keep kids online should be avoided.
- **Embrace teachers and relationships over EdTech.** Teachers engage learners better than EdTech, and learners engage better when learning is authentic. Remote learning, when needed, should be driven by human interactions and designed to maximize student engagement and agency through use of project- and place-based pedagogies and other self directed projects.
- **Maximize offline, hands-on learning.** Students, particularly younger children and children with special needs, learn better offline and hands-on. Therefore, schools have an obligation to maximize offline, hands-on learning – even if students are at home – by encouraging structured activities such as reading actual books, writing by hand, art, movement, outdoor play, real-world math projects, and nature exploration. During remote learning, schools must find ways to support families by providing physical books and supplies, in recognition of the fact that not all families are in a position to provide these things.
- **Avoid hasty purchases and decisions** during the pandemic that may lead to the overuse of EdTech for many years to follow. Instead, invest in educators.
- **Privacy matters.** Schools must understand and mitigate any privacy risks before assigning a platform or service to students. Schools should avoid services that do not clearly delineate who will have access to students’ sensitive data and for what purpose. Schools should also not assign platforms or apps that contain advertising, including upselling students and their families on premium versions, thereby exacerbating inequalities among students.

The impulse to embrace EdTech during the initial months of the pandemic was understandable; but the continued centering of education around EdTech is neither desirable nor inevitable. Parents and educators now know this to be true.

Fortunately, there is an alternative to EdTech: trusting educators to work together and employ their intelligence and creativity to design and deliver curricula that keep all students engaged while deepening their learning, even in a pandemic. Our children and our nation deserve nothing less than safe schools and low-tech, child-centered, educator-driven learning.

¹ Lunden, Ingrid. “ClassDojo, an App to Help Teachers and Parents Communicate Better, Raises \$35M.” *TechCrunch* (blog). Accessed July 24, 2020. <https://social.techcrunch.com/2019/02/28/classdojo-an-app-to-help-teachers-and-parents-communicate-better-raises-35m/>.

² See, e.g., Mohammed, Saro. “Tech or No Tech, Effective Learning Is All about Teaching.” *Brookings* (blog), September 6, 2018. <https://www.brookings.edu/blog/brown-center-chalkboard/2018/09/06/tech-or-no-tech-effective-learning-is-all-about-teaching/>.

³ Molnar, Alex, Gary Miron, Najat Elgeberi, Michael K. Barbour, Luis Huerta, Sheryl Rankin Shafer, and Jennifer King Rice. “Virtual Schools in the U.S. 2019,” May 28, 2019. <https://nepc.colorado.edu/publication/virtual-schools-annual-2019>.

⁴ OECD. “Students, Computers and Learning,” 2015. <https://www.oecd-ilibrary.org/content/publication/9789264239555-en>.

⁵ Molnar et al. (2019).

⁶ OECD (2015).

-
- ⁷ Jabr, Ferris. "The Reading Brain in the Digital Age: The Science of Paper versus Screens." *Scientific American*. April 11, 2013. <https://www.scientificamerican.com/article/reading-paper-screens/>.
- ⁸ Berninger, Virginia W., Robert D. Abbott, Janine Jones, Beverly J. Wolf, Laura Gould, Marci Anderson-Youngstrom, Shirley Shimada, and Kenn Apel. "Early Development of Language by Hand: Composing, Reading, Listening, and Speaking Connections; Three Letter-Writing Modes; and Fast Mapping in Spelling." *Developmental Neuropsychology* 29, no. 1 (2006): 61–92. https://doi.org/10.1207/s15326942dn2901_5.
- ⁹ Walsh, Jeremy J., Joel D. Barnes, Jameason D. Cameron, Gary S. Goldfield, Jean-Philippe Chaput, Katie E. Gunnell, Andrée-Anne Ledoux, Roger L. Zemek, and Mark S. Tremblay. "Associations between 24 Hour Movement Behaviours and Global Cognition in US Children: A Cross-Sectional Observational Study." *The Lancet Child & Adolescent Health* 2, no. 11 (November 1, 2018): 783–91. [https://doi.org/10.1016/S2352-4642\(18\)30278-5](https://doi.org/10.1016/S2352-4642(18)30278-5).
- ¹⁰ Softky, William, and Criscillia Benford. "Sensory Metrics of Neuromechanical Trust." *Neural Computation* 29, no. 9 (June 9, 2017): 2293–2351. https://doi.org/10.1162/neco_a_00988.
- ¹¹ Sheppard, Amy L., and James S. Wolffsohn. "Digital Eye Strain: Prevalence, Measurement and Amelioration." *BMJ Open Ophthalmology* 3, no. 1 (April 1, 2018): e000146. <https://doi.org/10.1136/bmjophth-2018-000146>.
- ¹² Varma, Rohit, Jennifer Deneen, Susan Cotter, Sylvia H. Paz, Stanley P. Azen, Kristina Tarczy-Hornoch, Peng Zhao, and Multi-Ethnic Pediatric Eye Disease Study Group. "The Multi-Ethnic Pediatric Eye Disease Study: Design and Methods." *Ophthalmic Epidemiology* 13, no. 4 (August 2006): 253–62. <https://doi.org/10.1080/09286580600719055>.
- ¹³ Hale, L., & Guan, S. (2015). Screen time and sleep among school-aged children and adolescents: a systematic literature review. *Sleep medicine reviews*, 21, 50–58. <https://doi.org/10.1016/j.smrv.2014.07.007>
- ¹⁴ Robinson, Thomas N., Jorge A. Banda, Lauren Hale, Amy Shirong Lu, Frances Fleming-Milici, Sandra L. Calvert, and Ellen Wartella. "Screen Media Exposure and Obesity in Children and Adolescents." *Pediatrics* 140, no. Supplement 2 (November 1, 2017): S97–101. <https://doi.org/10.1542/peds.2016-1758K>.
- ¹⁵ Garton, Steve, Jeff Graham, Jill Bronfman, and Girard Kelly. "2019 State of EdTech Privacy Report." Common Sense Media, 2019. <https://www.common Sense Media.org/sites/default/files/uploads/research/2019-state-of-edtech-privacy-report.pdf>.
- ¹⁶ Federal Bureau of Investigation Internet Crime Complaint Center. "Education Technologies: Data Collection and Unsecured Systems Could Pose Risks to Students," September 13, 2018. <https://www.ic3.gov/media/2018/180913.aspx>.
- ¹⁷ Federal Bureau of Investigation. "School Closings Due to COVID-19 Present Potential for Increased Risk of Child Exploitation." Press Release. March 23, 2020. <https://www.fbi.gov/news/pressrel/press-releases/school-closings-due-to-covid-19-present-potential-for-increased-risk-of-child-exploitation>.
- ¹⁸ Brewster, Thomas. "Online Child Abuse Complaints Surpass 4 Million In April. This Is How Cops Are Coping Despite COVID-19." *Forbes*, May 9, 2020. <https://www.forbes.com/sites/thomasbrewster/2020/05/09/online-child-abuse-complaints-surpass-4-million-in-april-this-is-how-cops-are-coping-despite-covid-19/#556dff848db>.
- ¹⁹ Boninger, Faith, Alex Molnar, and Christopher Saldaña. "Big Claims, Little Evidence, Lots of Money: The Reality Behind the Summit Learning Program and the Push to Adopt Digital Personalized Learning Platforms," June 25, 2020. <https://nepc.colorado.edu/publication/summit-2020>.
- ²⁰ Vigdor, Jacob L., Helen F. Ladd, and Erika Martinez. "Scaling the Digital Divide: Home Computer Technology and Student Achievement." *Economic Inquiry* 52, no. 3 (2014): 1103–19. <https://doi.org/10.1111/ecin.12089>.

Organizations

Campaign for a Commercial-Free Childhood

The Alliance for Early Childhood

Badass Teachers Association

Boston Teachers Union

Center for Digital Democracy

Center for Humane Technology

Class Size Matters

Collegiate Coaching Services

Defending the Early Years

DurableHuman.com

EverySchool

Illinois Families for Public Schools

Live Above the Noise Podcast

Massachusetts Association for Infant Mental Health: Birth to Six, Inc.

Massachusetts Teachers Association

MI Ed Justice

Nature Club Kids

Network for Public Education

New Mexico Pediatric Society

NoAppForLife.com

NYS Allies for Public Education (NYSAPE)

Obligation, Inc.

The Opt Out Florida Network

Parent Coaching Institute

Parent Coalition for Student Privacy

Parents' Coalition of Montgomery County, MD

ParentsTogether

Peace Educators Allied for Children Everywhere (PEACE)

Raise Your Hand for Illinois Public Education

Roots & Sky Nature School

ScreenStrong

Southern Early Childhood Association

Turning Life On

United Church of Christ, OC Inc.

Waldorf Early Childhood Association of North America (WECAN)

Washington Nature Preschool Association (WaNPA)

Individuals

Affiliations are for identification purposes only.

Matthew J. Bach, President, Andover Education Association

Nancy E. Bailey, Ph.D., @nancyebailey.com

Marsha Basloe, President, Child Care Services Association

Criscillia Benford, Ph.D., media theorist and co-author of "Sensory Metrics of Neuromechanical Trust"; member, Campaign for a Commercial-Free Childhood Board; member, Children's Screen Time Action Network Advisory Board

David C. Berliner, Regents' Professor Emeritus, College of Education, Arizona State University; author, *The Manufactured Crisis* (with B. Biddle); *50 Myths and Lies that Threaten America's Public Schools* (with G. Glass)

Faith Boninger, Ph.D., National Education Policy Center, School of Education, University of Colorado Boulder

Laura Bowman, Child and Public Schools Advocate

Cynthia Boyd, M.D., M.P.H

Carol Burris, Ed.D., executive director, the Network for Public Education

Angela J. Campbell, Chairman of the Board of Campaign for a Commercial-Free Childhood and Professor Emeritus, Georgetown Law

Patricia Cantor, Ed.D., Plymouth State University; co-author, *Techwise Infant/Toddler Teachers: Making Sense of Screen Media for Children Under 3*; member, Children's Screen Time Action Network Advisory Board

Nancy Carlsson-Paige, Ed.D., Professor Emerita, Lesley University; co-founder, Defending the Early Years

Connie Casha, M.Ed., Early Childhood Specialist, Tennessee

Emily Cherkin, founder, The Screentime Consultant

Erika Christakis, M.P.H., M.Ed., early childhood educator and author, *The Importance of Being Little*

Joe Clement, co-author, *Screen Schooled*

Lisa Cline, Chair, Montgomery County Council of PTAs Safe Technology Committee

Mary Cornish, Professor of Early Childhood Education, Plymouth State University

Larry Cuban, Emeritus Professor of Education, Stanford University

Tracy Cutchlow, author, *Zero to Five: 70 Essential Parenting Tips Based on Science*; member, Children's Screen Time Action Network Advisory Board

Libby Doggett, Ph.D., former Deputy Assistant Secretary of Policy and Early Learning, US Dept of Education

Lori Dorfman, Dr.P.H., Director, Berkeley Media Studies Group and Associate Adjunct Professor, School of Public Health, University of California, Berkeley

Diane Dreher, Ph.D., Professor of English, Santa Clara University; author, *Your Personal Renaissance*

Eleanor Duckworth, Professor Emerita, Harvard Graduate School of Education; author, *The Having of Wonderful Ideas*, and other essays on teaching and learning

George Dyson, author of *Analogia*, *Turing's Cathedral*, and *Darwin Among the Machines*

Cindy Eckard, student health activist and ScreensandKids.us blogger

Seth Evans, Chair, Screens in Schools Work Group, Children's Screen Time Action Network

Jean Ciborowski Fahey, Ph.D., author, *Make Time for Reading*

Betsy Fox, Fox Educational Consulting

Richard Freed, Ph.D., psychologist and author of *Wired Child*; member, Children's Screen Time Action Network Advisory Board

Roberta M. Golinkoff, University of Delaware; author, *Becoming Brilliant*

Sheryl R. Gottwald, Ph.D., CCC-SLP, University of New Hampshire

Tristan Harris, co-founder and president, Center for Humane Technology

Mindy Holohan, M.A., CFLE, Family Science Faculty, Western Michigan University

Kay Johnson, M.P.H., Ed.M., President, Johnson Group Consulting, Inc.

Denisha Jones, Ph.D., J.D., Director of Art of Teaching, Sarah Lawrence College

Brett P. Kennedy, Psy.D.

Marla Kilfoyle, retired educator NY, NBCT

Alfie Kohn, author, *The Schools Our Children Deserve*

Catherine L'Ecuyer, Ph.D. in Education and Psychology; author, *The Wonder Approach*

Diane Levin, Ph.D., Applied Professor of Human Development, Boston University; author, *Beyond Remote Control Childhood*; founder, Teachers Resisting Unhealthy Children's Entertainment (TRUCE)

Richard Levy, Ph.D., Professor of Political Science Emeritus

Susan Linn, Ed.D., Lecturer on Psychiatry, Harvard Medical School; author, *The Case for Make Believe: Saving play in a commercialized world* and *Consuming Kids: The hostile takeover of childhood*; member, Children's Screen Time Action Network Advisory Board

Dr. Robert MacDougall, Professor of Communication and Media Studies, Curry College

Barbara Madeloni, former president, Massachusetts Teachers Association

Roxana Marachi, Ph.D., Associate Professor of Education, San José State University; member, Children's Screen Time Action Network Advisory Board

Deborah Meier, retired teacher and founder of Central Park East schools in East Harlem and Mission Hill in Boston; author of *The Power of Their Ideas*

Matt Miles, co-author, *Screen Schooled*

Alex Molnar, Ph.D., Director, Commercialism in Education Research Unit, National Education Policy Center

Kathryn C. Montgomery Ph.D., Professor Emerita, School of Communication, American University

Daniel M. Mulcare, Ph.D., Chair, Department of Political Science, Salem State University

Dipesh Navsaria, M.P.H., M.S.L.I.S., M.D.; Associate Professor of Pediatrics, University of Wisconsin School of Medicine and Public Health; member, Campaign for a Commercial-Free Childhood Board

Susan Ochshorn, founder, ECE PolicyWorks; author, *Squandering America's Future*

Meghan Owenz, Ph.D., Assistant Teaching Professor, Penn State University

Rae Pica, author, *What If We Taught the Way Children Learn?*

Jenny Radesky, M.D., Assistant Professor of Pediatrics, University of Michigan Medical School

Dr. Anthony Rao, psychologist; author, *The Power of Agency & The Way of Boys*

Diane Ravitch, Ph.D., NYU

Kimberly Redigan, M.A., high school teacher; nonviolence trainer; blogger, *Write Time for Peace*

Thomas Robinson, M.D., M.P.H., Irving Schulman, MD Endowed Professor in Child Health, Professor of Pediatrics and of Medicine, Stanford University; member, Children's Screen Time Action Network Advisory Board

Douglas Rushkoff, Ph.D., Professor of Media Studies, CUNY/Queens; author, *Team Human*

Holly Seplocha, Ed.D., Professor of Early Childhood Education, William Paterson University

Brooke Shannon, founder and Executive Director of Wait Until 8th

Tiffany Shlain, author of *24/6: The Power of Unplugging One Day a Week*; founder, The Webby Awards; director, Let it Ripple Film Studio; member, Children's Screen Time Action Network Advisory Board

Craig Slatin, Sc.D., M.P.H., Professor Emeritus, University of Massachusetts Lowell

William Softky, Ph.D., Neuro/Data/Physical/Computational Scientist; co-author, "Sensory Metrics of Neuromechanical Trust"

Dr. Mari Swingle, Ph.D. Psych, M.A. Psych, M.A. Education, Clinical Researcher, Practicing Clinician/Psychoneurophysiology; author of *i-Minds: How Cell Phones, Computers, Gaming, and Social Media are Changing Our Brains, Our Behavior, and the Evolution of Our Species*

Jim Taylor, Ph.D., author, *Raising Generation Tech: Preparing Your Children for a Media-fueled World*

Sherry Turkle, Ph.D., Abby Rockefeller Mauzé Professor of the Social Studies of Science and Technology, MIT; author, *Reclaiming Conversation*; member, Children's Screen Time Action Network Advisory Board

Kevin Welner, Ph.D., Professor of Education, University of Colorado Boulder; Director, National Education Policy Center