



A Year Into COVID

The Changing Role of Technology and STEAM in Young Children's Lives

EARLY CHILDHOOD TECHNOLOGY WEBINAR SERIES
bit.ly/learnwithect

We will begin at
6pm EST



Dr. Amanda Sullivan,
ECT, University of Phoenix



Jason Innes,
KinderLab Robotics, Inc.



Angela de Mik, M.S.,
Norfolk Public Schools



Agenda

- Welcome & Opening
- Meet the Speakers
- Guided Panel Discussion
- Audience Q&A
- Reflections and Resources

Early Childhood Technology (ECT) Graduate Certificate Program

What You Will Learn

- Learn how to playfully introduce technology & engineering in early childhood
- Explore the work and philosophy of the DevTech Research Group, led by Prof. Marina Umaschi Bers
- Focus on early childhood (pre-kindergarten through second grade)
- Earn Graduate Credit in this one-year blended (online + in-person) program



Learn more at
go.tufts.edu/ECT

How to Apply

Attend an online virtual information session. Signup at go.tufts.edu/ECT

- Weds, May 5th at 4pm EST
- Weds, May 12th at 6pm EST

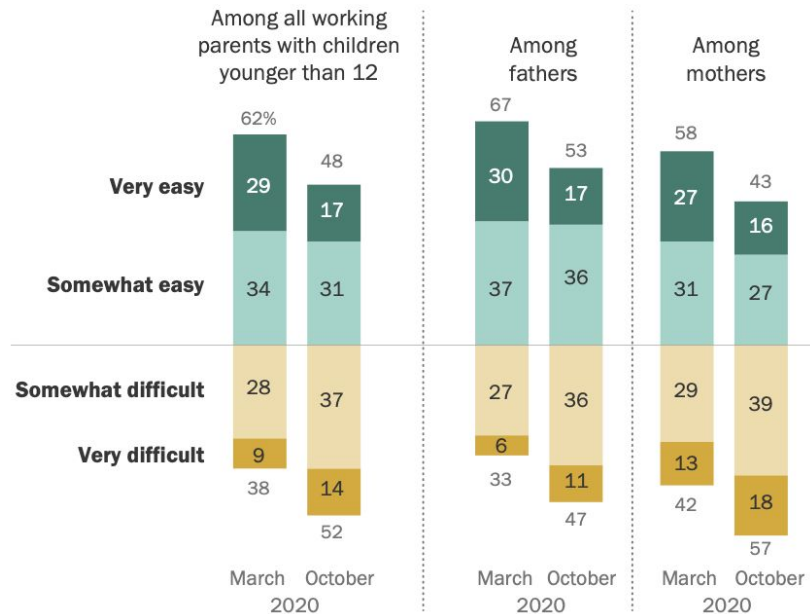
Application Requirements:

Application Fee, Resume/CV, Personal Statement, Essay, Transcripts, One Letter of Recommendation, Official TOEFL or IELTS if applicable

Application Promotion: Apply by June 1st to be eligible to have your \$85 (USD) application fee waived for free! Spots limited to the first 10 completed applications

As the pandemic has gone on, more working parents say handling child care has been difficult

Among employed parents with children under 12 at home, % saying it has been ___ to handle child care responsibilities during the coronavirus outbreak



Note: Share of respondents who didn't offer an answer not shown. Figures may not add to subtotals due to rounding. March numbers based on employed adults; October numbers based on employed adults with one job or one of multiple jobs that they consider primary. Source: Survey of U.S. adults conducted Oct. 13-19, 2020.

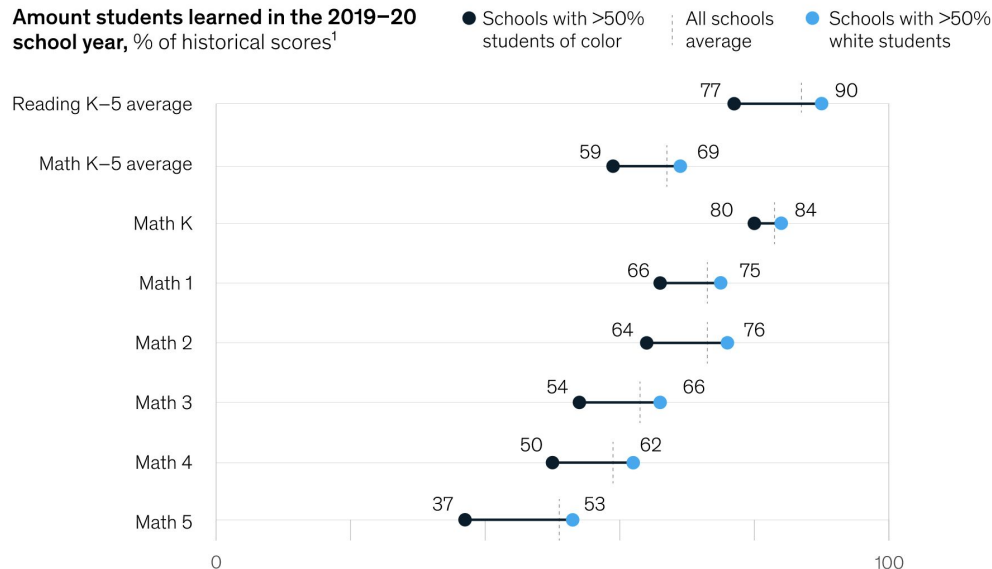
PEW RESEARCH CENTER

Concerns grow for children's health as screen times soar during Covid crisis

Experts say rise in sleep and eyesight problems may also be linked to increased use of digital devices

Most students are falling behind, but students of color are faring worse.

Amount students learned in the 2019–20 school year, % of historical scores¹



¹Percent of an "average" year of learning gained by students in 2019–20 school year, where 100% is equivalent to historical matched scores over previous 3 years. Source: Curriculum Associates

McKinsey
& Company

Amanda Sullivan - Tufts ECT Program

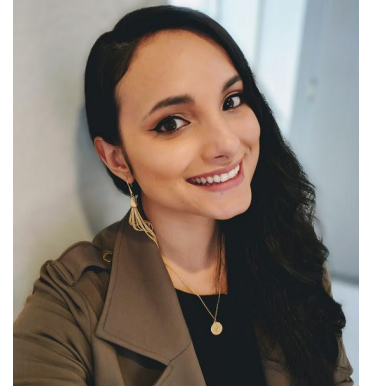
Dr. Amanda Alzena Sullivan, Ph.D.

Lecturer, Tufts Early Childhood Technology (ECT) Graduate Certificate Program
Associate Faculty, University of Phoenix, College of Doctoral Studies

Email: amanda.sullivan@tufts.edu

Twitter: [@AASully](https://twitter.com/AASully)

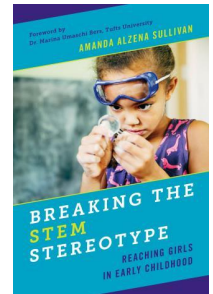
Instagram: [@keikisullivan](https://www.instagram.com/keikisullivan)



Background:

Amanda is a research consultant, educator, and author who focuses on the impact of new technologies on young children. Her research explores strategies for breaking gender stereotypes and engaging girls in STEM. Amanda holds a Master's and Ph.D. in Child Development from Tufts University where she worked with the DevTech Research Group. She is the co-creator of the [*ScratchJr Coding Cards: Creative Coding Activities for Children Ages 5-7*](#) and author of the book [*Breaking the STEM Stereotype: Reaching Girls in Early Childhood*](#). Her work has been featured in [GeekWire](#), [WIRED magazine](#), the [New York Times](#), and more. She is a mom to two young children.

Amanda is the proud former Associate Director of the ECT Program (2016-2019)!



Jason Innes - KinderLab Robotics, Inc.

Jason Innes

Director of Curriculum, Training, and Product Management

KinderLab Robotics, Inc.

jason@kinderlabrobotics.com

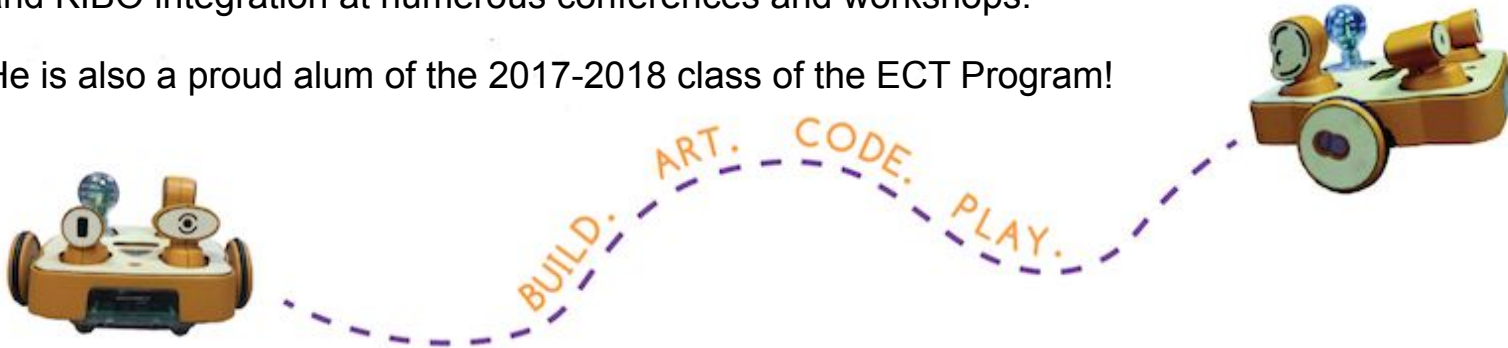
Twitter: @KinderLabRobot



Background:

Jason Innes is the Director of Curriculum, Training, and Product Management at KinderLab Robotics, where he supports teachers, parents and educators learning to integrate KIBO into meaningful and playful STEAM experiences for their young learners. He leads professional development workshops and manages KinderLab's 160 hours (and growing) of curriculum. He has presented on robotics, early coding, and KIBO integration at numerous conferences and workshops.

He is also a proud alum of the 2017-2018 class of the ECT Program!



Angela de Mik - Norfolk Public Schools

Senior Project Director for DoDEA Grant - Norfolk Public Schools

Email: ademik@nps.k12.va.us

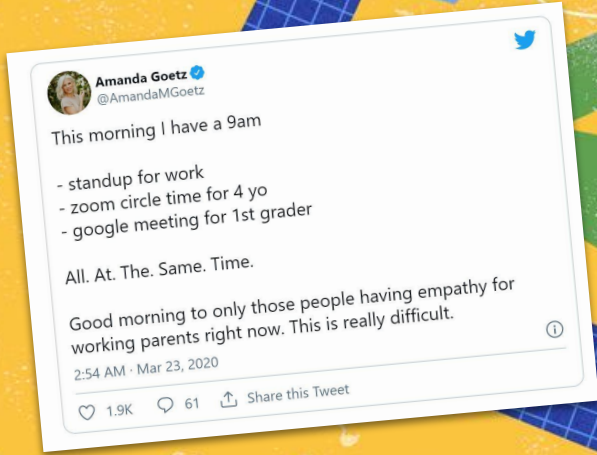


Angela has enjoyed working in education for 20 years where she has served as a special educator, school counselor, elementary principal and grant coordinator. Angela completed her PhD coursework in special education at Old Dominion University in 2017. For the past 5 years, she has served as the Project Director for "*Operation: Breaking the Code to College and Career Readiness*" DoDEA grant promoting elementary computer science and social-emotional programming to support elementary military-connected students in Norfolk Public Schools. Some of her favorite projects include a pilot study for K-2nd grades in partnership with Tufts University highlighting KIBO robotics and the family code events serving over 400 families over the past 5 years. She currently serves as a designee on the Virginia Department of Education Computer Science Framework Committee.



1: How have caregivers used at-home technology to support their children's learning needs, and how have our ideas about tech use changed throughout the pandemic?

From Relying on Tech to Survive → Learning with Tech to Thrive



Amanda Goetz @AmandaMGoetz

This morning I have a 9am

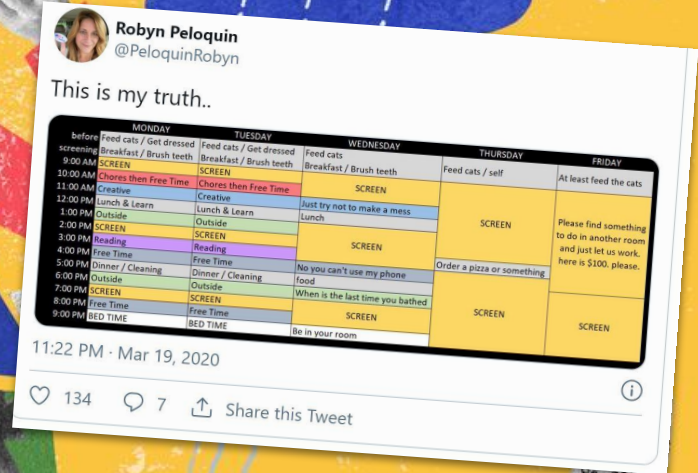
- standup for work
- zoom circle time for 4 yo
- google meeting for 1st grader

All. At. The. Same. Time.

Good morning to only those people having empathy for working parents right now. This is really difficult.

2:54 AM · Mar 23, 2020

1.9K 61 Share this Tweet



Robyn Peloquin @PeloquinRobyn

This is my truth..

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
before	Feed cats / Get dressed	Feed cats / Get dressed	Feed cats	Feed cats / self	At least feed the cats
9:00 AM	Breakfast / Brush teeth	Breakfast / Brush teeth	Breakfast / Brush teeth		
10:00 AM	SCREEN	SCREEN	SCREEN	SCREEN	
11:00 AM	Chores then Free Time	Chores then Free Time			
12:00 PM	Creative	Creative			
1:00 PM	Lunch & Learn	Lunch & Learn	Just try not to make a mess		
2:00 PM	Outside	Outside	Lunch	SCREEN	Please find something to do in another room and just let us work, here is \$100, please.
3:00 PM	Reading	SCREEN	SCREEN		
4:00 PM	Free Time	Free Time	SCREEN		
5:00 PM	Dinner / Cleaning	Dinner / Cleaning	No you can't use my phone	Order a pizza or something	
6:00 PM	Outside	Outside	When is the last time you bathed		
7:00 PM	SCREEN	SCREEN	SCREEN	SCREEN	
8:00 PM	Free Time	Free Time	SCREEN		
9:00 PM	BED TIME	BED TIME	Be in your room		SCREEN

11:22 PM · Mar 19, 2020

134 7 Share this Tweet

Wischover, C. (2020). Working from home with kids feels unsustainable. Here's how to ease the burden. Vox.

Past Webinar Recordings



Monday, May 11

Recording: <https://bit.ly/3480ivB>
Resources from Chip: <https://bit.ly/36bnhc-materials>



Wednesday, April 15

Recording: <https://bit.ly/2z9v9dt>
Kate's Slide: <https://bit.ly/2z9v9dt>
Play-based Learning with Apps at Home or School
See www.iste.org/2018/04/15/early-learning-network-webinar-series-april-15-2018/ for more information and a list of all the webinar recordings.



Monday, April 13

@3:30pm Eastern Time
Recording: <https://bit.ly/2Z63N0ta>
Dr. Amanda Sullivan Author of Breaking the STEM Stereotype
"STEM Learning at Home: How to Break Stereotypes & Inspire Young Children"



Thursday, April 9

Recording: <https://bit.ly/2Z6bXVl>
Exploring Media Literacy and Inquiry with Young Learners with Faith Rogow
[Twitter.com/faithhersfd](https://twitter.com/faithhersfd)
Document with Links from Dr. Faith Rogow



Monday, April 6

Recording: <https://bit.ly/3aP57MK>
Little Problem Solvers



Friday, April 3

[EdSurge.com](https://www.iste.org/2018/04/03/early-learning-network-webinar-series-april-3-2018/)



Thursday, April 2

Webinar Recording:

<https://bit.ly/3480ivB>

Doc with All Resource Links from Webinar

Lisa Guernsey [newamerica.org](https://www.newamerica.org)

twitter.com/LisaGuernsey



Wednesday, April 1

Webinar Recording: bit.ly/2xG7Y2P

Dr. Michael Rich cmch.tv/

mediatrician.com

cmch.tv/

CMCH YouTube Playlist

twitter.com/mediatrician

twitter.com/cmch_boston



Monday, March 30

Webinar Recording bit.ly/DrBerswebinar

Dr. Marina Bers sites.tufts.edu/mbers01

kinderlabrobotics.com

scratchjr.org



Foundations of Coding Webinar Series 2018

[Webinar 1 Recording](#)

[Webinar 2 Recording](#)

Learning with and through technology at home! What the experts have to say.

Watch recordings at: <https://sites.google.com/view/isteearlylearningnetwork/webinars>



Follow us on Twitter @ELN_ISTE

Facilitating Hands-On STEM ... Even Through Virtual Instruction!

Gender Equity in Online STEM Learning

Submitted by mgarcia@ngcproj... on July 13, 2020 - 4:09pm

Public event

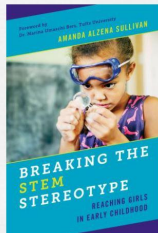
Date: Wednesday, September 2, 2020 - 12:00pm - 1:00pm

Time Zone: Pacific

Location (optional):
Adobe Connect

When engaging girls in STEM there are many strategies and practices that support gender equity and access, but how do those strategies work in online or hybrid learning environments? This webinar will explore what works for girls from preschool and early elementary to middle school and high school, potential adaptations, and new ideas to consider when teaching girls STEM online.

Join us as we learn from experts in the field including Amanda Sullivan, Ph.D., an Early Childhood STEAM & EdTech Specialist, and Lecia Barker, Ph.D., a Senior Research Scientist from the National Center for Women and Information Technology.



Access a resource list and webinar recording here:

<https://ngcproject.org/gender-equity-in-online-stem-learning>

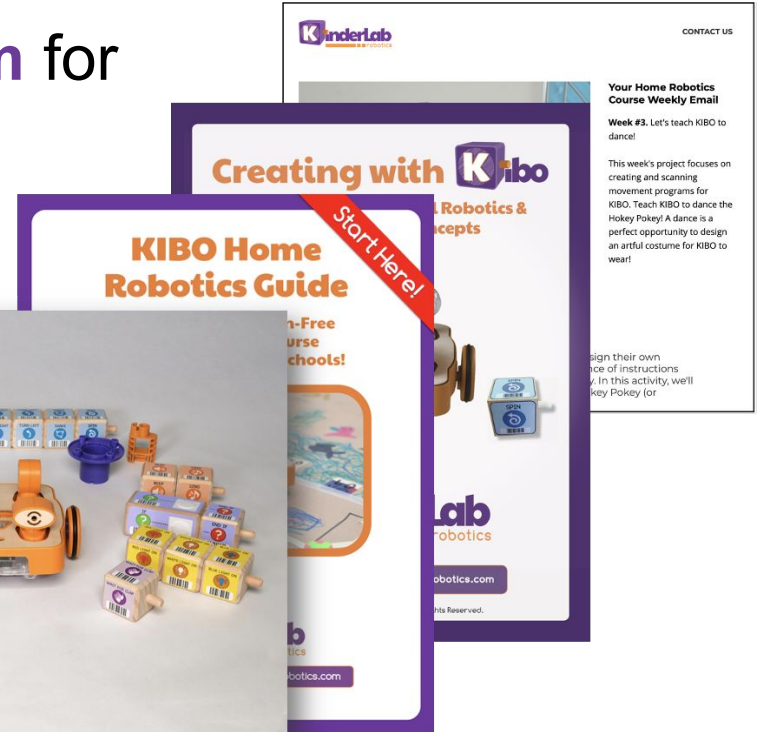
Promoting Family Engagement

- Joint Media Engagement* is a theory of how children and parents/caregivers learn together from media
 - Think of reading a book together
 - Caregiver and child each take on different roles
- Adult offers “affective scaffolding”
 - Encouragement, questioning, prompting
 - “How does this work? What are you making? What’s next?”
- Joint engagement builds bonds
 - Draws upon DevTech’s “Family Coding Days” project*, finding that joint engagement with KIBO supported collaboration due to tangible manipulatives



KIBO Home Robotics Course

- A **3-month KIBO rental program** for home STEM education.
- Supports parents and caregivers as they introduce coding, robotics and engineering to their children.



<https://www.kinderlabrobotics.com/at-home>

KIBO “Home Edition”

KIBO Home Edition, introduced in Fall 2020, is tailored for home use.

- White acrylic faceplate instead of wood
 - Children can draw directly on surface
- Scannable cards not blocks
 - Less durable than blocks, but suitable for home
- Paper “costumes” fit over acrylic faceplate
 - Decoration, building, art, and imagination play are still central to KIBO experience



2: How have schools, EdTech companies, and informal spaces adapted to remote and hybrid learning, and what have we learned?

Sudden Shift towards 21st Century Learning Landscape

Pandemic Challenges in School Districts

❖ **Beginning of Pandemic - worksheet packets**

- Equity, access and grading
- Engagement and deep learning

❖ **Devices = our dream of 1 to 1 is here - *Now what?***

- Getting devices to our parents, buying my-fi for internet access in some homes
- Helping parents use multi-sign-in password
- Using a platform like Clever to coordinate schooling across the district
- Parents on a huge learning curve with technology in the home
- Logistics, helpdesk and need for more Instructional Technology Resource Teachers

❖ **Emotional/Physical well-being - staff, students and parents - when will it be safe to return???**

- ❖ Intense need for teacher professional development in virtual teaching
- ❖ Parent/caregiver and Teacher collaboration



Connecting with KIBO

Blended Learning programs with KIBO were able to deliver the benefits and address the challenges.

Here is one model:

- The teacher records or delivers circle-time lessons introducing KIBO concepts for all students.
- KIBO kits rotate to student homes, with guidance for caregivers.
- Small-group video-conferences with the families who have KIBO.
- Children share photos and videos of their KIBO creations to promote peer connection.

Connecting with KIBO

Using KIBO to support age-appropriate blended learning and distance learning during school closures



Info, News, and Shop at: [kinderlabrobotics.com](https://www.kinderlabrobotics.com)

© Copyright 2020 KinderLab Robotics. All Rights Reserved

KIBO's Home Visit / KIBO Class Pet



- KIBO is visiting! Can KIBO join your **family's routines**?
- Decorate KIBO as a **friend**, a **pet**, or a favorite **character**
- **Create a program** for your visitor to act out
- Record and take pictures of KIBO to **share with peers**
 - Seeing friends and sharing home life builds connections

3: As we move toward a “new normal,” what assets, methods, and infrastructures do we hope to learn from, or keep?

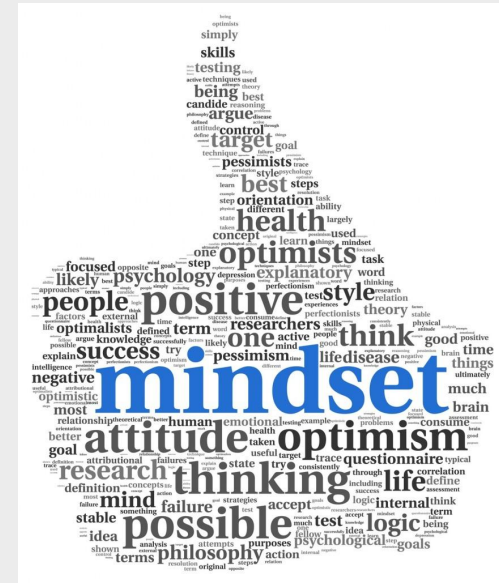
The Grows and Glows of Teaching in a Virtual World

- ❖ “*Change in Plans*” - How to do 1 to 1 with student learning **NOW!**
- ❖ Intentional and systematic Teacher PD in digital tools that deepen student learning opportunities
- ❖ Empathy - parent/teacher collaboration - “*We will do what it takes to make it work*”
- ❖ Empowered Parent knowledge/skills in Child’s Education
- ❖ Deeper Engagement - Tech tools, purposeful APP use and technology lessons that help Kids “produce” versus just “consume”
- ❖ Tech connection- incentivizing zoom time with KIBO hour, ScratchJr, Codapillar, Code.org
- ❖ “I do, you do, we do” turned into “I do, you watch, we’ll do someday”. Sometimes we tried, “I do with KIBO, you do with your body”
- ❖ **HOW DO WE ASSESS ALL OF THIS??? SAFELY??** - informal and formal



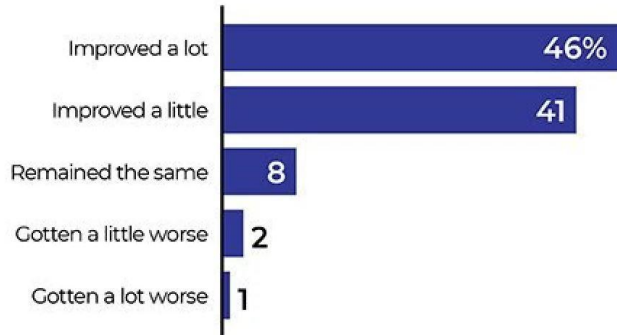
Opportunities for a “New Normal” in Education

- ❖ Individualized and systematic teacher PD opportunities
- ❖ High-quality, cross-curricular units - STEAM
- ❖ Parent-teacher “empathy” and collaboration
- ❖ “*Thinking outside the Box*” in assignments
- ❖ More autonomy for students in the “producing” and “showing” of their knowledge in the learning process
- ❖ ***Higher need for TechEd Coaches and support***
- ❖ Rethink and redesign school spaces
- ❖ Parent Education - how to grow a 21st Century graduate
- ❖ ***Growth mindset all around!***



Towards a Positive Future for Teaching with Technology

1. Since schools closed, my ability to effectively use educational technology has:

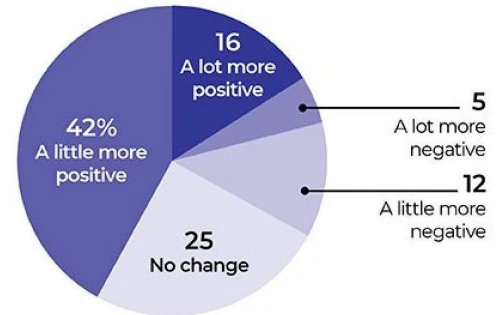


*Results show responses from teachers.

SOURCE: EdWeek Research Center survey, 2020

EdWeek
Research Center

2. As a result of our/my increased use of technology during coronavirus closures, my opinion of educational technology has gotten:



*Results show responses from teachers and district leaders.

SOURCE: EdWeek Research Center survey, 2020

EdWeek
Research Center

“Innovation has suddenly moved from the margins to the center of many education systems, and there is an opportunity to identify new strategies, that if sustained, can help young people get an education that prepares them for our changing times.”

Vegas. E. & Winthrop, R. (2020). Beyond reopening schools: How education can emerge stronger than before COVID-19. *The Brookings Institute*. Retrieved from:

<https://www.brookings.edu/research/beyond-reopening-schools-how-education-can-emerge-stronger-than-before-covid-19/>



Bringing the Benefits Forward

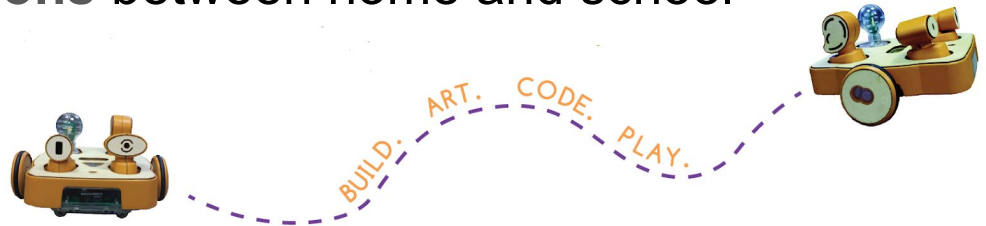
Young children learn best with resources that:

- Allow **hands-on, creative learning** through play
- Promote **peer collaboration**
- Minimize **screen-time**
- Align with **learning standards and objectives**



During the pandemic, schools were able to use these resources to:

- Promote **caregiver-child collaboration** through joint engagement
- Promote **stronger connections** between home and school



Concluding remarks

“Parents are more aware of the intention behind tech integration, and now more aware of what *should* be happening. I hope they continue to advocate for their children for the right kind of learning. We can’t just go back to worksheets.” -
Angela de Mik



Share your questions in the chat!

What are your questions about the “new normal” for children and technology post-pandemic?



Spring into STEAM

FREE Activity Ideas
at ECT's monthly Virtual Open House!

Register today:

FEBRUARY 10, 2021

7:00 PM EST

Virtual Valentines

MARCH 10, 2021

4:00 PM EST

Storytelling with Code

APRIL 7, 2021

12:00 PM EST

Build-a-Dream Engineering

MAY 12, 2021

6:00 PM EST

Messy Making

GO.TUFTS.EDU/ECT

Questions: amanda.strawhacker@tufts.edu



Tufts

Graduate School of Arts and Sciences

Learn with ECT

Spring 2020 Webinar Series.

- Recordings available at: bit.ly/learnwithect

Application Workshop: Funding your Graduate Education.

- Join ECT and Tufts Admissions on May 5th @ 4pm EST: go.tufts.edu/ECT

ECT Open House: Spring into STEAM Series.

- Get free ECT-student made resources on May 12 @ 6pm EST: go.tufts.edu/ECT