TECH KIDS
UNLIMITED
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TECH KIDS UNLIMITED
2020 ANNUAL REPORT

MISSION ⎯⎯⎯●

Tech Kids Unlimited (TKU) is a NYC-based not-for-profit organization that teaches computer science thinking and technology to students ages 7-21 who learn differently. Our mission is to open up the field of technology to students with disabilities, especially those with Autism Spectrum Disorders (ASD) to help them become the techies of tomorrow. By creating, developing and sharing the tools of technology in a supportive and nurturing individualized environment, we are working to change the paradigm for education and employment for young people with disabilities. Our unique program model includes a 3:1 student to teacher ratio along with a social worker in the classroom.

Tech Kids Unlimited's goals include: to improve access to informal education programming for students with ASD; to increase students' knowledge of technology skills for future employment opportunities; to increase students' social interaction with peers as kids who love technology often have a lot in common and enjoy sharing their affinities; to increase students' social skills with peers through collaborating on tech projects and to increase students' daily living skills.

WWW.TECHKIDSUNLIMITED.ORG

FROM THE BOARD PRESIDENT ———●

Dear Friends of Tech Kids Unlimited,

First of all, on behalf of the TKU Board and Staff, we hope that this note finds you and your families well. 2020 brought challenges for everyone that no one could have predicted. As we begin to look forward to 2021, we're hopeful for a return to normality and for the chance to take the lessons of this hard year into a brighter future.

At TKU, 2020 has been simultaneously difficult and incredibly rewarding.

Under the visionary leadership of our founder and Executive Director Beth, and in concert with her incredible staff, TKU reacted quickly to our "new normal" and nimbly pivoted our programs from 100% in-person to 100% online. Pulling on their years of experience as educators serving our community, TKU offered a full complement of remote spring, summer and fall programs, with record attendance numbers of 450 students for the year.

Our students were engaged in learning together even though they were physically apart. This shift to online learning confirms that the magic of TKU isn't something that necessarily requires a certain format or physical attendance. Rather our curricula, our focus on each individual student and the magic of studying in an environment designed for students who learn differently is what keeps our students coming back and our incredible funders engaged in our mission.

Moreover, this year also saw TKU secure a National Science Foundation grant, after many years of working on proposals with our colleagues at CUNY-College of Staten Island and The Ability Project @ NYU Tandon School of Engineering. The work funded by the NSF will push forward our understanding of how our community learns and develops. The NSF also confirms TKU and our partners in academia as important voices in our field.

As Board President, I am so proud of what Beth, her staff, the board and the wider TKU family have achieved in 2020 and what it portends for our future as an organization.

We thank you for your support and look forward to seeing you, perhaps in person, in 2021.

Sincerely,

David Rosenberg

President, Board of Trustees

Note: Board president David Rosenberg is unrelated to Executive Director Beth Rosenberg.

FROM THE EXECUTIVE DIRECTOR ———

Dear Friends:

　　Like many not-for-profit organizations, Tech Kids Unlimited has felt the effects of 2020, one of the most difficult years that many of us have experienced in a long time. With our funders and our amazing community, TKU has continued to offer fun, dynamic and educational programs for youth and teens who learn differently. In fact, prior to Covid, we estimated that we would have 350 students join us in 2020 and we are thrilled that 464 students showed up for our Sunday classes, summer program, Hackathons and more. This shows us that TKU programs are needed more than ever and that our families need and want their kids to learn computational thinking and technology skills. We are proud that after TKU pivoted to online learning via Zoom in mid-March 2020 that we re-framed our curriculum and lessons to continue to include a social worker to help students with anxiety and social/emotional skills online. So many good things happened at TKU this year including:

- A pilot Career Readiness Summer Internship Program where seven alumni TKU students who are now in college received a two-day a week virtual internship along with a three-day workforce and career readiness curriculum taught by TKU's social work graduate student;
- A website announcing The TKU Digital Agency was created by our Digital Agency teens at **www.tkuagency.com**;
- For the first time ever, TKU was selected to participate in two city-run programs, SYEP Summer Bridge (Summer Youth Employment) where we worked with 13 students for 5 weeks and Neon Arts (run by Carnegie Hall with funds from the Department of Probation) a 16-week online program for 13 students in the South Bronx;
- A three-year National Science Foundation research award with our collaborators Prof. Kristen Gillespie-Lynch, CUNY-College of Staten Island and Prof. Amy Hurst, Director, The Ability Project at NYU Tandon to study learning strategies around students with autism spectrum interested in pursuing careers in STEM.

　　None of this would be possible without the superb staff at TKU who works so hard every day—and some weekends too! We are thrilled that we were selected in January 2020 to be part of Youth Inc.'s Board Advancement Program and we have received tons of online strategy sessions, volunteers who have helped us on budgeting and strategy, along with a roadmap to strengthen the TKU board. TKU's fantastic group of foundation and corporate sponsors continue to help us serve our mission and are constant sources of support in our journey.

　　We are hoping the world of Covid will pass soon, but until it does and after, Tech Kids Unlimited will be here for our students and their families because we like to say—it's all about the kids and their unlimited creativity, imagination and desire to succeed.

Best,

Founder/Executive Director

RESPONSE TO COVID-19 ⎯⎯⎯⎯•

During this unprecedented time, in response to restrictions created because of Covid, one of Tech Kids Unlimited's (TKU) biggest accomplishments was the organization's ability to put all workshops online as of Friday, March 13, 2020. As an education technology organization, TKU had the experience and staff to go online quickly and efficiently using tools our students know and are comfortable with—Zoom, Slack and Google Suite. Due to the mandated shutdown and economic hardship that many of the TKU families have been presented with, the staff and board made the decision not to charge for the spring workshops and to reduce the costs for summer workshops, add additional parent support programs free of charge and to provide more scholarships than ever before. The organization went through an intense re-budgeting process which included predicting how much money would be lost by not charging for classes in the spring and increasing scholarships in the summer and fall.

The Finance Committee, headed by Treasurer Joel Bencosme from PwC was instrumental in helping secure a $79,000 PPP in the second wave of loans. This was used to support staff salaries and fringe benefits. In addition, three foundations supported TKU with emergency monies. The FAR Fund, The Meringoff Foundation, and The New York Community Trust contributed a total of $75,000 for financial scholarships for students. In addition, Infosys Foundation USA gave a grant of $2000 to hold five free family workshops in June.

While we had hoped to be back doing in-person classes at partner site NYU Tandon School of Engineering in Brooklyn for Fall 2020 and Spring 2021, NYU requested de-densifying the buildings and classrooms as much as possible. TKU will stay virtual hoping to make a return to in-person classes at NYU in Summer or Fall 2021, pending the state of Covid. Despite the challenges caused by Covid, TKU has served our most students ever this year — 464 -- with online programs. TKU is delighted to report that no staff was furloughed or laid off and even a few new tech teachers were hired to support the growth of programs.

Covid did not stop us from serving our community!

WHAT OUR COMMUNITY SAYS: ⎯⎯⎯⎯⎯

There was a time when I didn't know what to say or how to express myself and I was nervous all the time, but since TKU, I've stopped having that level of nervousness. TKU has helped me to be myself. -- R., Age 18

It gave me an opportunity to do real, professional graphic design and learn about the field, and it taught me about a lot of useful programs to use. It was fun. I like getting creative within restraints so this was perfect. It's a great program with great teachers :) – O., Age 16

Having a small group of kids and a social worker in every program was pivotal for my daughter. The social worker helped Cara navigate various challenges that came up for her as the summer was not easy as she missed seeing her friends in person. The support of the Tech Kids team was truly a life line for us during the most challenging months of the pandemic." – Parent of C., Age 10

I am super grateful for your hard work and dedication as you invented virtual opportunities for our kids ! Your staff was excellent: knowledgeable, engaging, supportive and patient. – Parent of E., Age 14

Thank you for letting me be an intern and teaching me work etiquette through TKU again! I've learned so many new things about work through the practice meetings and my internship at ATHelp, and it encourages me to improve even more at future jobs and just life in genera." – S., Age 18
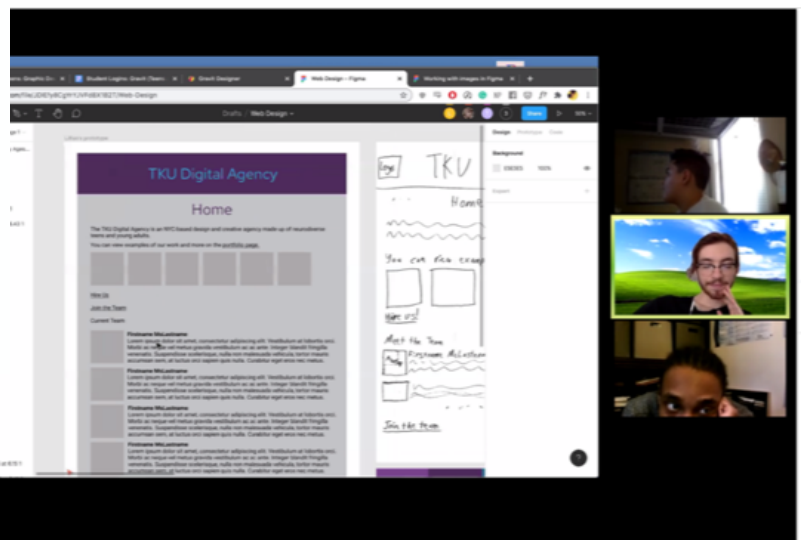
NUMBERS ———•

- **475+** unique students served

- **67%** of students on financial aid

- **65%** of students POC

- **10** programs: 83 workshops / 650+ hours of computer science thinking and technology skills offered

PROGRAMS ———

As of March 2020, all TKU programs pivoted to online workshops using Zoom which has been provided gratis to TKU through our partnership with The Ability Project and the Integrated Design and Media Program at NYU Tandon School of Engineering.

- **SUNDAY AFTERNOON WORKSHOPS:** Two-hour workshops held twice a month from September to June for youth and teens. Students learn a multitude of technology-related curricula.

- **WEDNESDAY AFTER-SCHOOL WORKSHOPS:** In response to COVID, TKU offered a one day a week workshop to either learn tech or play games together starting Fall 2020 for youth and teens to help them fill up their after-school time on weekdays.

- **FRIDAY TEEN SOCIALS:** This program was held monthly throughout the year where teens got to hang out, talk about tech stuff, and socialize.

- **SUMMER WEEKLONG TECH WORKSHOPS:** Workshops that introduce students to 21st century technology skills; (hoping to be in-person for 2021, otherwise virtual).

- **ONE-DAY PROGRAMS:** Special events such as our annual Hackathons.

- **PARENT PROGRAMS:** Talks led by the LCSW and guest lecturers about the journey of raising their child.
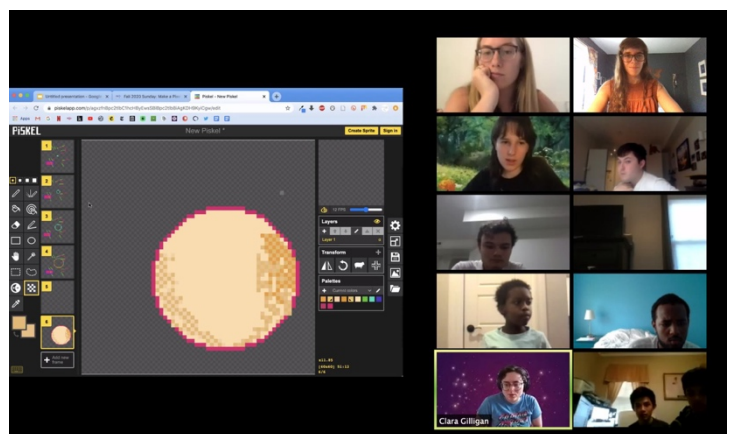
TEEN CAREER-READINESS PROGRAMS

- **THE TKU DIGITAL AGENCY:** After-school program for students (ages 15 to 21) with advanced skills whom work on real client projects and get paid (stipends) for their work.

- **COLLEGE ACCESS PROGRAM:** Provides a supportive environment to explore college options and build college-readiness skills. Meets ten times annually in two cohorts.

- **CRISP (CAREER-READINESS INTERNSHIP SUMMER PROGRAM):** Piloted in 2020 for college-age students who spent 3-days per week learning hard and soft skills and 2-days at a work site.

- **CREATIVE TECH INTERNSHIP:** An internship for teens/young adults aged 17-21 interested in work or study in creative tech-based fields, and acts as a bridge between school experiences and workplace environments. CTI interns meet weekly September to June to work together on various deliverables for our client-based projects.
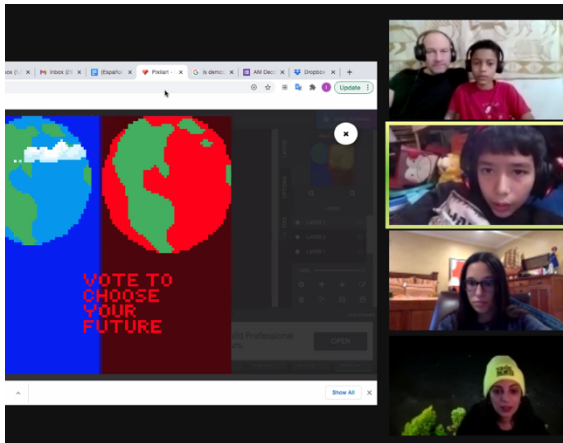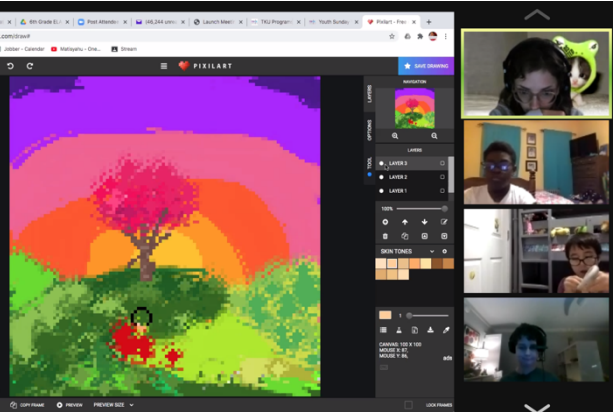
NATIONAL SCIENCE FOUNDATION GRANT ⎯⎯⎯⎯⎯🔌

Awarded to The Ability Project at NYU Tandon School of Engineering, CUNY College of Staten Island and Tech Kids Unlimited August 2020

Promoting Engagement in Informal STEM Learning as a Path to Employment for Adolescents with ASD

OBJECTIVES:

1) Identify evidence-based strategies to engage youth with ASD in informal STEM learning opportunities that are well matched to their attentional profiles,

2) Determine if engaging youth with ASD in informal STEM learning opportunities increases their STEM self-efficacy, and

3) Determine if engagement with STEM internship activities is associated with increased interest in STEM careers and career decision-making self-efficacy.
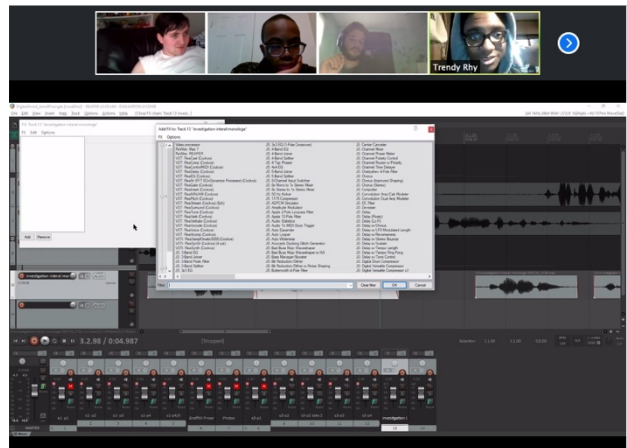
TKU SPEAKS OUT ⎯⎯•

ARTICLES THAT APPEARED ON MEDIUM.COM IN 2020

Supporting Computer Science Education for Neurodiverse Learners
Kate Maloney, Executive Director, Infosys Foundation USA
Beth Rosenberg, Executive Director, Tech Kids Unlimited

As we push through the COVID-19 pandemic, there is no question that inequalities in the education system have come into the spotlight. No learning community was left unscathed as schools across the US shuttered to protect teachers, staff, students and their families. Through this surreal season, we have watched the virus disrupt learning for millions of children who come from different backgrounds with differentiated learning needs. These differences include Dyspraxia, Dyslexia, Attention Deficit Hyperactivity Disorder, Dyscalculia, Autistic Spectrum, Tourette Syndrome, and more. Neurodiversity is a concept where neurological differences are recognized and respected, rather than reviled. This principle needs to be applied equally in society and the classroom — particularly when the definition of a classroom has been disrupted and transformed by virtual learning.
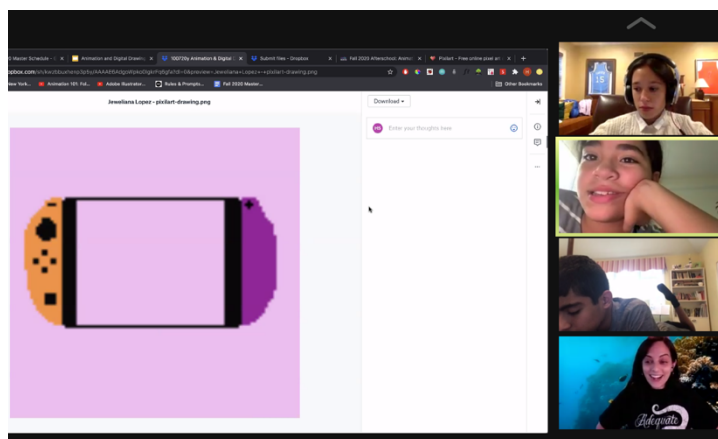
As we observe COVID-19's disruption to the American classroom, we are reminded about what it means to teach and reach all students. With a commitment to advance equal access to computer science and maker education, the Infosys Foundation USA aims to be even more strident in its mission to bring valuable content to ALL students and families who are learning remotely.

The Infosys Foundation USA is thrilled to deepen our partnership with the non-profit education organization, Tech Kids Unlimited (TKU), to expand the offerings of our [Pathfinders Online Institute](#) to students with differentiated learning styles and their parents. TKU serves students who learn differently to teach them computational thinking and technology skills. In addition to the on-demand content already on the platform, a series of five 'live stream' workshops will be led by TKU for families and high-school learners to bridge them into the summer season. These interactive sessions are meant to teach, but also to foster connectivity for of families working

together to close out the academic calendar with a final burst of inspiration and empowerment through computer science learning.

As we design learning experiences for neurodiverse students, we should keep in mind that they thrive in similar environments to traditional learners:
· a calm, quiet space to learn with the support of family and care-givers
· the sense of empowerment that comes from learning to code
· the gratification that results from solving logic problems
· the motivation that results from virtual learning discoveries

All are invited to the participate in these live events. Log-on to the Pathfinders Online Institute, create an account and discover the rich learning content of TKU and other computer science and maker education providers.
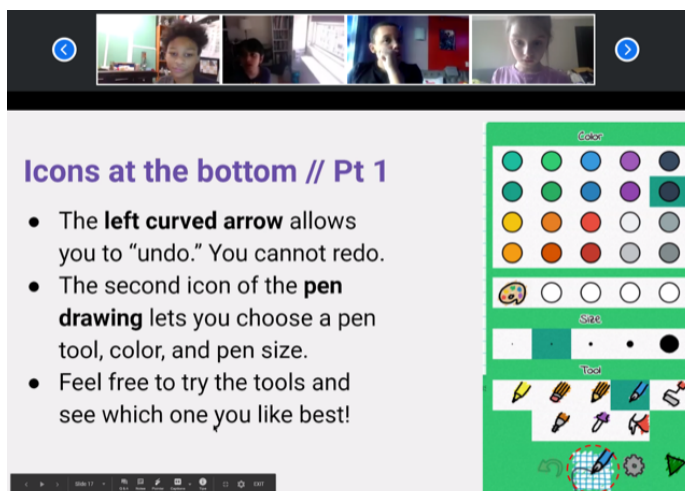
The Foundation and TKU are joined in the spirit of including all and we hope you head into the summer months inspired to pursue digital learning and unlock the potential of technology to shape more inclusive opportunities for all kinds of learners in future generations.

CS4ALL, Access & Tech Kids Unlimited
Jessye Herrell, Education Manager, Tech Kids Unlimited

At Tech Kids Unlimited (TKU), a NYC-based out-of-school time education organization that was piloted in 2009 and received its not-for-profit status in 2014, we work with neurodiverse students, so accessibility and engagement have always been front and center. At TKU, students' possibilities are unlimited--when they are taught in a supportive and motivational way, the sky's the limit. TKU staff is accustomed to taking each student's unique learning needs into consideration as programs and curricula are planned. TKU was recently awarded a three-year National Science Foundation grant in partnership with CUNY-College of Staten Island and The Ability Project at NYU Tandon to explore evidence-based strategies to engage neurodiverse youth in informal STEM learning. Students with disabilities and/or learning challenges are just like any other student--they are creative, unique, and love making and creating digital produts using their computer science education and technology skills. Due to the coronavirus pandemic, new challenges in learning computer

Icons at the bottom // Pt 1
- The **left curved arrow** allows you to "undo." You cannot redo.
- The second icon of the **pen drawing** lets you choose a pen tool, color, and pen size.
- Feel free to try the tools and see which one you like best!

science have pushed TKU to examine our accessibility practices from new perspectives. This year has brought into stark clarity the gap in access to digital resources that disproportionately impacts black and brown students from under-resourced communities and the urgent need for digital equity. As students transitioned to learning online, school districts scrambled to ensure that every student had reliable internet and a device at home but fell short. In NYC, 77,000 students were still without a device heading into the 2020-2021 academic year. Though significant, the issues with digital equity do not end with access to wifi and devices. We must also take into account the necessary digital literacy skills demanded by learning content and platforms. For instance, 27,000 NYC students never logged on to summer school (nearly 25% of those enrolled), many citing glitches and confusion with the online learning portal iLearn as a barrier.

As these challenges illustrate, it is essential that we consider not only students' individual learning needs and lesson content, but also the environments in which our students are learning.

What device(s) are they using? Does it have a webcam? A microphone?

Are they sharing that device with anyone else? When do they have access to it?

Is the space they are learning in quiet or are there distractions? Do they have headphones?

Are they using assistive technology?

Is there internet connection consistent or spotty?

Are all parts of their identity accepted at home?

Simply put, it is imperative now more than ever that accessibility be baked into all programming and instructional decisions. CS4All's 2020 goal to Design for All - Design from the Beginning perfectly captures this sentiment. TKU students represent a range of unique learning needs, strengths, and preferences, so designing for all is integral to TKU's approach. We strive to align our curriculum and teaching practice with the Universal Design for Learning (UDL) model, which suggests that when you design for diverse learning needs, you inherently increase access for all learners. The core principles of UDL are to provide multiple entry points for learners to connect with, interpret, and demonstrate their understanding of content.

Luckily, many of these practices translate well to remote learning. If you provide students with written instructions and visual examples to accompany a synchronous virtual lesson, it allows them to refer back to instructions or follow along at their own pace during instruction much like they would in the physical classroom. However, these supplementary resources also address challenges unique to remote learning. If a student is in a loud environment, they can refer to written instructions. If the student loses their internet signal or needs to share their device with a family member during the lesson, they can participate asynchronously when the signal returns or the device is available again.

During the Coronavirus pandemic, TKU has stretched this practice beyond our instruction to include program logistics planning by asking when, how, and why our families connect with our programs. TKU preemptively removes barriers to participation by considering the optimal length and time of online workshops, choosing free, web-based software tools available across devices, prioritizing digital tools that

automatically save student work in-browser but don't require logging in, and creating always-available supplemental resources to accompany synchronous lessons.

Finally, designing for all also means recognizing how emotionally demanding it is to learn amidst a pandemic, national demonstrations in response to racial violence, and a deeply divisive election, and meeting students where they are. During our online workshops since March, we have emphasized social engagement, the joy of learning, and opportunities for students to discuss and share their passions, ideas, questions, and concerns with peers while de-emphasizing finished, polished projects. Learning takes many forms and can include outcomes such as joy, exploration, and accomplishment. Neurodiverse students are here--they are in our classrooms and communities-- and they are ready to learn and yearn to be interns and ultimately find employment and contribute to society. Let's support them through access and commit to them via CS4All's goals of ensuring every child is ensured a computer science education.
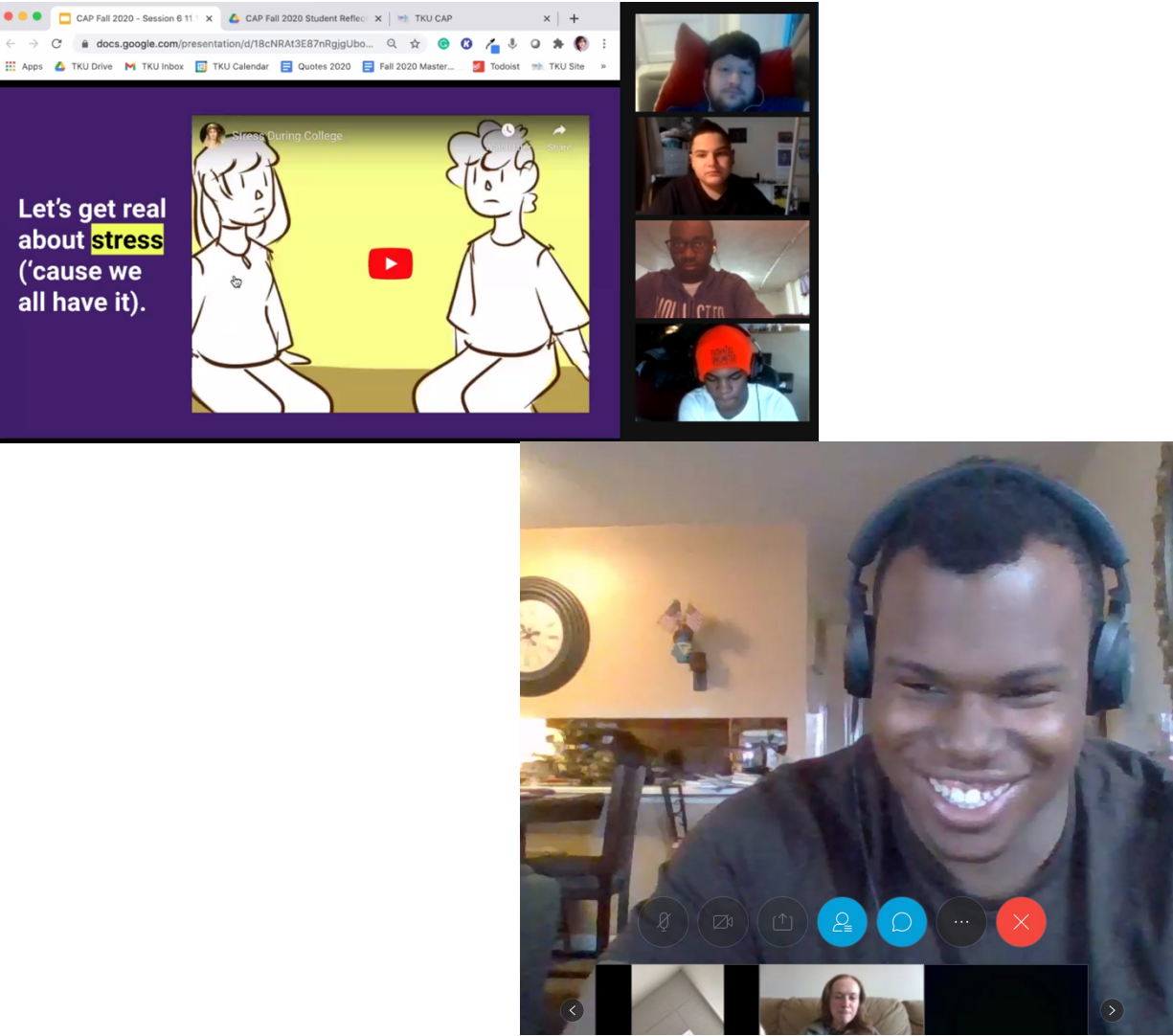
GRATITUDE ———•

Thank you to all those who donated to TKU in 2020!

- Adolph and Ruth Schnurmacher Foundation
- Autism Speaks (GameStop)
- BlackRock Foundation
- Capital One
- Con Edison
- Council Member Stephen Levin, NYC Council Discretionary Fund
- Doug Flutie Jr. Foundation for Autism
- Joseph H. Flom Foundation
- Goldman Sachs Gives
- Hyde & Watson Foundation
- Infosys Foundation USA
- J.E. & Z.B. Butler Foundation
- Jewish Communal Fund
- Kupferberg Family Foundation
- Meringoff Family Foundation
- New York State Council for the Arts
- NYU Community Fund
- PriceWaterhouseCoopers Charitable Foundation
- Renate, Hans, and Maria Hofmann
- The FAR Fund
- The New York Community Trust
- The Omer Foundation
- The Taft Foundation
- TD Bank
- Wellmet Philanthropy
- Youth INC.

We are grateful to The Ability Project at NYU Tandon School of Engineering!

THANK YOU!

BOARD AND STAFF ———

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  - *Note: Board president David Rosenberg is unrelated to Executive Director Beth Rosenberg.*
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CONSULTANT

Ariana Riccio, Ph.D, Evaluator

For any questions please contact info@techkidsunlimited.org