

From Crisis to Creativity

Can technology play a role
in strengthening teacher-
student relationships?

By Evo Popoff and Hillary Knudson

Introduction by Dr. DeeAnn Powell

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About Gradient Learning

As a nonprofit organization led by educators, Gradient Learning creates solutions to meet the holistic needs of every child while fostering success for all. We are empowering an underpowered educational system to work for students of today and tomorrow. Our offerings include the Summit Learning program—a research-based approach to education designed to drive student engagement, meaningful learning, and strong student-teacher relationships—and Along.



About Whiteboard Advisors

For nearly two decades, our team of educators, policy wonks and storytellers has brought an understanding of policy, technology and practice to bear on our collaboration with the most transformative organizations and entrepreneurs in education. We're passionate about taking breakthrough ideas to scale to reimagine how we learn, work, and live.

Introduction: Back to Basics in Pasadena ISD

By: Dr. DeeAnn Powell, Superintendent Pasadena Independent School District, Texas

As schools reopened this year amid an ongoing cloud of uncertainty, district leaders were forced to, once again, navigate both the immediate challenge of ensuring the health and safety of students, faculty, and staff while addressing the reality that schools will feel the repercussions of disrupted learning for years to come.

But a silver lining may be emerging.

While the pandemic disrupted the lives of children and teachers and the classroom routines they shared, it also magnified aspects of school life that we know are imperative for student success.

When the pandemic separated students from their school communities and classrooms, concepts like agency and self-direction took on a renewed sense of importance. Parents and caregivers, (many for the first time) developed a tangible understanding of why their teachers spent so much time emphasizing executive functions like resilience, self-efficacy, and academic tenacity. As a result of the pandemic, parents have a heightened understanding of the connection between social and emotional development and academic progress—and a renewed appreciation for the power of relationships.

The importance of building positive and trusting relationships between teachers and students has, for example, been front and center in Pasadena ISD for many years. But as we have worked through the difficulties of the pandemic, the significance of these relationships (and their connection to student success) was thrown into sharp relief.

If necessity is the mother of invention, perhaps the pandemic unlocked fresh thinking about the potential for technology to play a role in fostering deeper relationships. Because just as the pandemic strained their best efforts to strengthen ties with students, our educators (who have always known that relationships are the foundation for educational outcomes) identified creative and effective ways to nurture relationships in the digital world.

While this period has been challenging, my district was better equipped than most to navigate the pandemic's troubled educational waters. More than five years ago, we began shifting away from a one-size-fits-most model of instruction to a personalized approach that prioritizes one-on-one relationships through mentorship in support of both academic and non-academic needs. Eventually we expanded it to nearly every school in our district.

As a forthcoming case study of Pasadena ISD's work with the Summit Learning platform explains, our shift to a more personalized approach not only led to profound gains for our students before the pandemic, it also better prepared us for the 2020-21 school year, when over 60% of our 50,000 students were forced to learn virtually for much of the year.

To be clear: our district still faces significant challenges. Our shift to personalized learning was driven not by the need to prepare for disaster but the realization that our old way of teaching simply wasn't serving each of our students well. It was animated by a belief that our responsibility extended into postsecondary education, where 27% of our students graduated from college on time.

At the core, our pre-pandemic focus on meeting individual needs was rooted in a student-centered approach to schooling grounded in student agency and student-led learning. Perhaps most importantly, our model focused on building strong student-teacher and student-mentor relationships.

In these difficult times, it is easy to focus on what has been lost: learning,

instructional time, childhood years and far too many lives. But it is also an opportunity to reflect on what we have gained: a greater appreciation for life, renewed understanding of the importance and power of relationships, and an appreciation for the potential of technology—which often separates us—to bring us together in new and profound ways.

As we continue to emerge from remote learning, this primer challenges us to consider aspects of the COVID-19 learning experience that might have value for our students and education systems moving forward. It explores the perspectives of experts in social-emotional development, with the goal of understanding how promising practices can support leaders. It also provides a helpful guide to a research base that informs our understanding of not just why relationships matter most, but which types are most impactful.

In Pasadena ISD, we are seeing the fulfillment of the promise of technology in enhancing student-teacher relationships. I hope that, by sharing our story, we can help to spark a dialogue about new ways to leverage technology to connect with our students and unlock their limitless potential.

Dr. DeeAnn Powell

Dr. DeeAnn Powell assumed the role of Superintendent of the Pasadena Independent School District on February 1, 2016, where she has worked in various roles since 1991. She is the first graduate of Pasadena ISD and the first woman to be appointed Superintendent.

DeeAnn Powell is the Superintendent of Pasadena ISD. Dr. Powell has held many leadership positions over her 30-year career with Pasadena ISD. Before being named Superintendent, Dr. Powell began her career as a teacher and quickly advanced in leadership, serving as Campus Peer Facilitator, Assistant Principal and Principal. In 2005, she assumed the role of Associate Superintendent of Campus Development. She later served as Deputy Superintendent before making history as the first Pasadena ISD graduate and the first female to be appointed Superintendent of Pasadena ISD in early 2016.

As Superintendent, her collaborative leadership style and unwavering commitment to student excellence has fostered a positive climate throughout Pasadena ISD, resulting in many district accomplishments. Just a few of these include the expansion of a district-wide full-day pre-kindergarten class at each elementary campus, a K-12 Dual Language program and the implementation of a nationally recognized Personalized Learning program.

Pasadena ISD has been recognized at the regional, state and national levels for academic excellence and support of the Arts. Last year, Pasadena ISD graduated one of the largest groups of Early College High School students in Texas; was named a Model Professional Learning Community (PLC) District by Solution Tree, and was named a Texas Art Educators Association (TAEA) District of Distinction.

Along with excellence in the classroom, the district's Business Department has also been recognized for excellence in business practice consistently each year of Dr. Powell's tenure. She also has been recognized often for her outstanding leadership during her career. In 2018, she was named a Hurricane Harvey Hero, leading the district and surrounding communities in the aftermath of the hurricane. She also received the 2018 Learning for Texas Award for 'Outstanding Support from a Superintendent for Professional Learning.' In addition, as a member of the Team of Eight, Dr. Powell and the Board of Trustees were recognized as the Region 4 Board of the Year and selected as one of five Honor Boards recognized by TASA/TASB in 2019.

Dr. Powell holds an undergraduate degree in Psychology and History from Sam Houston State University, a Master's Degree in Educational Management and a Doctorate in Educational Leadership from the University of Houston, Clear Lake.

Executive Summary

- For many, the pandemic's forced shift to remote learning revealed the importance of healthy, trusting relationships between teachers and students. But it also highlighted ways in which technology could be used to foster deeper and more impactful teacher-child relationships.
- While technology is no substitute for in-person interactions with a live, professional educator in the classroom, a growing number of educators are now using technology and practices honed during the pandemic to strengthen relationships with learners. Therein lies opportunity.
- This paper makes the case that a global calamity may have sparked a renewed appreciation of the critical role that positive human relationships play in the classroom. It considers whether lessons from the pandemic may serve as a catalyst for future innovation and improvement.
- Through anecdotes, data, and observation, we explain why schools that had been implementing student-centered learning models or experiential pedagogical approaches that emphasized student agency may have fared better in the face of last year's ambiguity and adversity.¹
- The goal of this paper is not to provide an exhaustive treatment of a complex topic. *It is also not without bias.* This paper was commissioned by Gradient Learning, a startup that grew out of decades of research by Summit Public Schools, a network of charter schools that has long prioritized research by working to pair teachers' real-life experiences with insights from nationally-acclaimed learning scientists. Its existence and mission reflect a belief that technology designed for and by educators holds potential to improve educational outcomes.
- We hope that readers will consider the findings of this paper within the context of Gradient Learning's origins and aspirations. Most of all, we hope it encourages conversation about both the benefits and risks of the ideas and practices that it highlights.

Why Now?

In April 2020, *The Hechinger Report* published a troubling look at the immediate impact of COVID-19 on K-12 students. The findings will, by now, strike many as familiar: millions of students ripped from their classrooms had long-established academic and social routines disrupted.²

Students relationships with teachers who, for many, were one of the most consistent adults in their lives were also strained. According to the report, the pandemic was “an unprecedented test” for teacher-student relationships.³ It included the perspectives of Jennifer Glick, an English language arts and special education teacher at PS/MS 108 in East Harlem, New York: “If you don’t have a relationship with them, they won’t learn. In middle school, it’s really part of development. They want that internal motivation, to do it for someone who really cares about their success.”⁴

“As teachers, we join this profession to help students learn and that special relationship teachers develop with their students is a key aspect of the equation,” said Paula White, Executive Director of Educators For Excellence, New York. “With the shift to remote learning, that relationship was suddenly confined to a window on a computer screen and that shift, along with the other challenges of remote teaching, was not easy for many teachers.”

Nineteen months later, amidst ongoing disruption and trauma, educators,



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— Paula White, Executive Director of Educators for Excellence-New York

policymakers, families, and caregivers are beginning to quantify the impact of this disruption on student learning. End-of-year assessments in Ohio⁵ and Tennessee,⁶ to name a couple, point to widening gaps as a result of school closures. Sadly, the impact on student mental health may be even more devastating, with more than one-third of parents reporting that

students in mostly online learning environments experienced mental health challenges.⁷ Assessing the pandemic's impact, Phyllis Lockett, the CEO of LEAP Innovations put it this way: "It may be more accurate to view our current 'unfinished learning' challenge as a by-product of 'disrupted relationships' and not just lost instructional time."⁸

Confronted with this data, it is easy to dismiss the remote experience of the last year and a half as an

irredeemable failure.⁹ It was, without a doubt, tragic. But learnings from that experience may also leave a more constructive and indelible mark on post-COVID education. With technology nearly ubiquitous in schools (after billions invested in devices and infrastructure),¹⁰ and increased expectations among parents, students,¹¹ and educators¹² in the continued use of technology,¹³ it is unlikely that technology's role in education will decrease significantly in the future.

The Science Behind Relationships and Learning

Ask most people about their best experience in school, and they will almost always describe a relationship with a teacher. This should not be a surprise. Human beings are social creatures and learning is a social activity. “Our brains have evolved to thrive in communities and relationships—this is our evolutionary advantage,” explains Dr. Melina Uncapher, Lead Program Director at the Advanced Education Research and Development Fund. “The ‘social brain’ is one of the most powerful learning mechanisms we have.”

For teachers, the power of relationships is nothing new. Decades-old studies have shown that during the first years of school, the most effective learning environments marry academic instruction with the regulation of emotions through critical interaction with adults and peers.¹⁴

Academic success and behaviors like regular attendance are linked to improved social-emotional and executive functions. These are skills that support students’ successful transition during challenging periods like elementary to middle school.¹⁵ Similarly, research has shown that students in school-based mentoring programs with teachers not only score higher on measures of connectedness, but actually have fewer disciplinary referrals and lower rates of absenteeism.¹⁶

Neuroscience has also shown that positive interactions with adults allow children’s brains to build pathways that lead to the further development of skills like resilience, adaptation, and mindfulness.¹⁷ Additionally, there’s evidence that those pathways remain intact across a child’s lifespan,¹⁸ further demonstrating the importance of educators emphasizing relationships as a focal point of high quality learning environments.



70+% of students report that when they have a strong relationship with a teacher, they are more likely to pay attention and participate in class, look forward to and enjoy class, and feel like they belong.

— “How to Close the Relationship Gap in Schools: Findings From a Survey of Students,” Gradient Learning, October 2021

According to Dr. Robert C. Pianta, Dean of the University of Virginia School of Education and Human Development, despite their importance, the relative value and emphasis placed on nurturing positive relationships has been inconsistent at best. He explained that there may be a tendency to treat positive relationships as “something that just happen and are nice to have. The last 20 plus years of developmental science prove time and again the value of relationships in supporting outcomes that matter, like executive function, inhibitory controls, as well as social and academic skills, including literacy. As importantly, proven practices and interventions exist for building positive relationships.”

The advocacy and research organizations Education Trust (EdTrust) and MDRC have, for example, have laid out several qualities of developmentally positive student-teacher relationships, including “expressing care, challenging growth, providing support, sharing power and expanding possibilities.” Of course, all of these must be pursued with a focus on supporting students’ positive racial, cultural, and ethnic identity development.¹⁹

Importantly, there are “intentional steps districts can take to help build strong relationships,” said Dr. Nancy Duchesneau, Senior P-12 Research Associate at EdTrust. “These include making decisions around how time and resources are used, carving out time in schedules for relationship

building, providing training for teachers and selecting culturally responsive curricular materials.”

In an effort to codify these practices, the Learning Policy Institute and Turnaround for Children released in June 2021 a new playbook for education systems based on the science of learning and development. The first of its five principles is building positive developmental relationships, which “enable children and adolescents to manage stress, ignite their brains and fuel the connections that support the development of the complex skills and competencies necessary for learning success and engagement.”²⁰ Supportive relationships with adults also protect children from the impact of stress and trauma, help develop their competence, and allow them to build trust and agency, the researchers noted.²¹

By focusing on building relationships between educators and students, the authors of the playbook hope that schools can create an environment where children not only can learn, but contextualize what they’re learning and transfer it to other areas.²² When those strong bonds are combined with social-emotional support and character development, students develop the agency to direct their own learning.²³ “When children interact positively with teachers and peers, qualitative changes occur in their developing brains that establish pathways for lifelong learning and adaptation,” the playbook explained.²⁴

Social-Emotional Learning: From the Periphery to the Core

Education policies in the U.S. have historically have focused almost exclusively on the academic dimensions of learning: vocabulary, reading comprehension, math skills and other discrete indicators.²⁵ With federal accountability tied primarily to assessments in math and reading, the resulting narrowing of the K-12 curriculum—excluding non-tested topics and non-academic areas—was not surprising.²⁶

Among the myriad problems with such a narrow focus is that those academic dimensions represent just a fraction of the knowledge and skills that contribute to student success in school, relationships, and life.²⁷ It also risks marginalizing and de-emphasizing the development of skills like teamwork, problem-solving, assertiveness, and collaboration that have been shown to be critical to workforce readiness and are highly sought-after by employers.²⁸

The No Child Left Behind Era epitomized U.S. policy's bias towards academics with "its intense focus on raising test scores to avoid punitive consequences for students, teachers, and schools," which left little room for whole-child approaches to learning grounded in relationships.²⁹ But while most parents, teachers and students agreed that "social emotional learning is important to education," according to a report 2019 report from the National

Commission on Social Emotional and Academic Development,³⁰ schools often struggled to implement social emotional learning due to the perceived lack of a clear connection to academic outcomes.³¹ Perhaps unsurprisingly, a 2015 PDK/Gallup poll found that the vast majority of Americans felt that there was too much emphasis on standardized testing and that, instead, school success should be measured "by whether students are engaged and are hopeful about the future."³²

In recent years, a growing body of research has also pointed to the connection between student social-emotional well-being, academic outcomes and the prevention of mental health issues.³³ Specifically, the development of social-emotional competency is "associated with greater well-being and better school performance whereas the failure to achieve competence in these areas can lead to a variety of personal, social, and academic difficulties."³⁴ These skills aren't "soft, immeasurable, irrelevant, or faddish," but rather "integral to academics—to how school happens, and to how learning takes place."³⁵

And policy-makers are beginning to take note. Even before the pandemic, all 50 states had adopted pre-kindergarten through 12th grade social-emotional learning (SEL)

competencies.³⁶ The interest in student social-emotional development has only increased as a result of the pandemic.

“Research clearly documents human relationships and supportive developmental experiences are what cultivate potential in young people. We know that no part of the brain develops in isolation—meaning there is no separate “math” part of the brain or “emotions” part of the brain; they are inextricably linked,” said Dr. Christina Theokas, Chief Applied Science Officer at Turnaround for Children. “Academic learning is tightly intertwined with social and emotional experiences, mental and physical health. So, it should come as little surprise that the disruption to students’ and teachers’ environments, relationships, and experiences would negatively impact well-being and learning.”



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— Dr. Christina Theokas,
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at Turnaround for Children

From Crisis to Creativity

As the lights went off in classrooms across the country in March 2020, longstanding inequities became far more evident. Students and teachers entered a laboratory of online trial and error through unfamiliar technologies and modalities. It was an experience that most teachers were underprepared for as they were forced to use new technologies and design digital learning experiences for the first time.³⁷

“Here I am, at 66, within a year of full retirement, having to learn how to use Google Classroom with 35 first graders at various places in their learning. I feel as though I am attempting to drive on a road that I am simultaneously paving while also following a paper map,” said Janet Kass, a first grade teacher in Bloomingburg, New York.³⁸ The experience was also a challenge for parents, balancing their own already-disrupted work routine with providing tech support, re-learning math, and keeping their children motivated.³⁹

In-person instruction has, after all, been the default mode of teaching for hundreds (if not thousands) of years. Digital learning is still in its infancy, spanning perhaps only 20 years in the K-12 space.

Against that backdrop, COVID-19 represented the first large-scale implementation of remote learning with a technology infrastructure that was never equipped for the challenge. “For many teachers, the abrupt shift

to remote learning was a trial by fire. There was no time to prepare for or to optimize how the technology was implemented, so, of course, they struggled mightily,” said Dr. Joseph South, former Director of the Office of Education Technology at the United States Department of Education.



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While the challenges of education technology became the stuff of headlines, over time, a growing number of teachers were able to find their way to practices that worked well for them and for their students. In some

cases, through professional learning, collaboration with peers or simply experimenting, they found hacks that helped them connect with, engage, and teach students in a remote setting.⁴⁰

Some of the lessons learned are also proving valuable as students return to in-person instruction. “As we shifted to remote and hybrid learning, I had to be very intentional about checking in with each student in my class. I started each class with a 10-minute conversation that had nothing to do with math - perhaps touching on something happening in the world,” says Dr. Cicely Woodard, Former Tennessee Teacher of the Year, High School Math Teacher, Springfield Public School District, Missouri. “Those 10 minutes were critical for staying connected with my students. And the students really valued the time and asked me to continue the check-ins even after we returned fully in-person.” “Schools in general were not prepared for a situation where technology was a “must have” for instruction to take place. But a silver lining of this national tragedy is that it forced school leaders and educators to work together to put in place systems and supports to get everyone up to speed in the use of the new tools,” said Bart Epstein, President and CEO of the Edtech Education Exchange. “From this collaboration, we are starting to appreciate what is possible as teachers and schools begin to use technology in potentially transformative ways.”

As challenging as the transition to remote learning was, some educators found they had a leg up as they

started teaching from their living room. Districts that had greater familiarity with remote or blended learning practices, in particular, found themselves ahead of the learning curve. “We were all feeling the stress and pressure of all the changes and uncertainty, but we were grateful to have some hybrid [learning] structures already in place that continued our drive forward,” said Cory Woolstenhulme, Principal at Columbia High School in Nampa, Idaho—an early adopter of competency-based learning through the Summit Learning Platform.

Similarly, schools that embraced intentional approaches to relationship building had an advantage going into remote learning. Take Van Ness Elementary School in Washington D.C. as an example. The school re-opened in 2015 with a whole-learner model with a strong focus on supporting student well-being.⁴¹ A key component of Van Ness’ model is Strong Start “a set of rituals and routines that get students ready to learn by fostering a sense of safety, belonging, community, and self-efficacy.”⁴² These well-established routines served as an easy jumping-off point to stay connected with students, according to Cynthia Robinson-Rivers, the school’s Head of School. “As the school transitioned to a remote learning model we modified the Strong Start rituals for a virtual setting,” said Robinson-Rivers. “Some pieces did not translate well, as anyone who has tried to lead group singing on Zoom can attest. But the essential elements—staying connected, establishing a



As the school transitioned to a remote learning model we modified the Strong Start rituals for a virtual setting. Some pieces did not translate well, as anyone who has tried to lead group singing on Zoom can attest. But the essential elements—staying connected, establishing a sense of community and building relationships—remained and were as important, if not moreso, for our students and educators during the pandemic.

— Cynthia Robinson-Rivers,
Principal, Van Ness
Elementary School,
Washington, D.C.

sense of community and building relationships—remained and were as important, if not moreso, for our students and educators during the pandemic.”

Some educators and district leaders even saw new opportunities to enrich the learning experience with digital tools. As explained by Jourden Armstrong, a teacher at Flushing Community Schools, technology created an “opportunity to make [] connections and address [] deeper, meaningful issues in a way that respects my time and also respects my students’ time. . . maybe they want to record an audio response or a video response, and they don’t feel comfortable doing that in a classroom.” Armstrong continued by stating that through the technology “I feel a connection that I think I would not otherwise be able to have given the short amount of time that I have those students in my classroom” and “students are able to share in a safe space.”

But even districts that had experimented with hybrid modalities before the pandemic found that new tools were needed to meet the challenge of remote learning on a much broader scale. “Although it was clear that technology could create new opportunities to connect in one-on-one settings with technology, the tools that we had to use were not up for the challenge,” said Andrew Goldin, CEO of Gradient Learning. “It’s not just about technology, it is about the integration of technology and practice. Workflows have to make sense to both students and educators. And both need support and scaffolding to inform their practice.”

“Even among districts that had been implementing the Summit model, we saw this pressing need to give students a way to connect with teachers with their masks off—not just their physical masks, but the proverbial masks they wear around their peers in the school building,” said Goldin. “We began working with a small group of educators to explore ways to enhance Summit with features that could promote meaningful synchronous and asynchronous interactions between students and teachers. That was really the origin of Along.”

Ultimately, that collaboration between educators and technologies evolved into a tool that provided teachers an easy, structured way to check in and engage one-on-one with students. Teachers use Along to record their video reflections on a topic that they then share with students, who respond via video, audio, or text directly to their teacher—without peer pressure.

Tia, a former high school student at Classical Academy High School explained that “[i]t makes it more comfortable to even just walk into the

class and know I’m here to learn from a person and a teacher, not just a teacher.”

The benefits of these one-on-one interactions were mutual, according to Dr. Stacy Perez, a principal in Escondido, California: “I’ve learned so much about [my students]. I thought I knew my students really well, and I learned about [them] and [their] hobbies and their families and their values. That’s built an even stronger connection through the videos and [technology.]”

Technology-facilitated mentorship played a similar role during the pandemic in the Pasadena Independent School District. “Just us sitting with a whole entire class, they’re not very willing to share personal things with the whole class,” said Amy Richard, a fifth-grade science teacher and mentor at Pasadena’s Keller Middle School. “But whenever we’re one-on-one, I learn so much about every single student and their background. I realize, ‘Oh, maybe that’s why they act that way in class. They went through such a hard time the last few years.’ Or, how they’re really interested in a niche topic, ‘how can I empower them to learn more?’”

Can Technology Actually Help to Enhance Relationships?

“When the pandemic hit, our students were prepared because they were comfortable using technology for learning and as a tool to cultivate strong relationships with their teachers,” said Frankfort Independent Schools Superintendent Houston Barber. In his district, the 2020-21 school year focused more on supporting students and less on academics—a success, he said, since the year ended “in a very strong place. Our students were able to still thrive and have opportunities to learn, even in difficult circumstances.”

But one need not search long to find apocryphal headlines like “Digital Technology is Killing our Relationships”⁴³ and “Is Technology Killing the Human Touch?”⁴⁴ While writers⁴⁵ and researchers,⁴⁶ with good reason, question the impact of technology on relationships and mental health, the disruption caused by the pandemic demonstrated ways in which technology can enable connections within a structured context, such as a school or classroom—and perhaps even improve them.

Connecting with Students and Families

Toward the beginning of the pandemic (May and June 2020), the American Instructional Resources Survey (AIRS), reported 43 percent of teachers surveyed cited challenges with student participation and communicating

with students as some of the most significant hurdles.⁴⁷ Teachers were consistently challenged by how to reach students, both literally and figuratively, due to connectivity issues and making the transition to virtual and asynchronous learning, as well as being able to support students in meeting their basic needs.⁴⁸

In particular, the experience during the pandemic demonstrated ways in which technology addressed pre-existing inequities within the education system. “We know from research that students of color feel more disconnected from school than more affluent, white students,” said Nancy Duchesneau, Senior P-12 Research Associate at EdTrust, “so any tool that can address that and help students and their parents feel more connected is a good tool.”

Connecting with, and receiving feedback from, families during the pandemic was critical for improving the remote learning experience of students in under-resourced homes and communities. “During distance learning, staying connected to families [was] even more important,” says Cynthia Robinson-Rivers, the Principal of Van Ness Elementary School in Washington D.C.. “Events like a parent Q & A on Zoom and surveys for families helped us to solicit feedback so that we can continually adjust our approach to distance learning.”⁴⁹ This imperative

was echoed by Cheryl Camacho, Chief of the South Bend Empowerment Zone in South Bend, Indiana - where 79% of students qualify for free and reduced lunch - who stated during the pandemic: “we want to ensure that we understand the contours of not only how families are experiencing eLearning, but also how they are navigating this particular moment in time.”⁵⁰

Technology also became a critical tool for sharing important information with families. Indeed, districts serving lower-than-average socioeconomic populations posted more information about meals, jobs, and material-and-device pickups than districts with greater socioeconomic resources.⁵¹ Those findings suggest that district leaders and teachers used technology to create alternate methods to communicate with students and their families, methods that worked better than traditional face-to-face approaches—often requiring in-person meetings.

“We’ve heard a similar story from many of the districts we work with,” said Jane Swift, CEO of the education innovation nonprofit LearnLaunch. “[Technology] gave school and district leaders a new way to connect with parents & family caregivers, particularly families in under-resourced communities, that they erroneously thought were not engaged in their students’ learning.” Those leaders told us that they realized “these caregivers were deeply engaged with, and interested in, their students’ learning,” she continued. “It’s not that they didn’t care, they just didn’t have the flexibility at work that more affluent

parents enjoyed that let them come to school during the narrow daytime windows schools normally let those meetings take place.”

“The pandemic showed schools that they could leverage technology more effectively to stay connected with students and families,” said Jean-Claude Brizard, CEO of Digital Promise. “Digital tools like social media and texting provided school and district leaders a good way to maintain and improve their outreach to, and relationship with, caregivers, which is why it remains critical that we address gaps in digital access and digital literacy among educators, students and parents.”

Engaging Students

Technology is often assumed to have a potential dehumanizing effect on education, with devices, software and other edtech driving a wedge between teachers and their students. And to be sure, there are risks.⁵²

But what educators saw last year is that, in the right hands, technology can make their lives easier while also enabling relationships to flourish in ways that are difficult through face-to-face-interactions alone. As noted earlier in this paper, technology can be used to enable one-on-one check-ins that simply aren’t possible in a traditional classroom, creating a unique opportunity for teachers and students to get to know each other. The idea isn’t to use technology to replace these relationships. It’s not an alternative to improving and reducing student-

to-teacher ratios. Rather, it is a tool to increase the frequency and enhance the quality of interactions by providing multiple modes of communication.

Dr. Joseph South, Chief Learning Officer at ISTE, articulates this potential: “For far too long we have focused on technology that does little more than incrementally improve upon the lecture and worksheet model of teaching. We have almost entirely overlooked the potential of technology to connect us to each other beyond the four walls of the classroom in a learning community that embraces and supports the learner by enabling developmental relationships with other teachers, mentors, peers, caregivers, counselors, and family members.”

The Summit Learning Teacher Feedback Study suggests that teachers value the use of digital tools to enhance relationships. Conducted in spring 2021, anywhere from 58 to 61 percent (depending on grade level) of teachers nationwide “strongly agree[d]” that “effective use of technology within learning is important to help students develop the skills and knowledge they need for future success.”⁵³ Across all grade levels, Summit Learning teachers are more likely than teachers nationwide to strongly agree with the connection between effective technology use and student success, the survey found.⁵⁴ And they were more likely to say that the effective

use of technology increases student engagement in learning.⁵⁵

Higher values may correspond to teachers’ level of comfort with key classroom practices. Teachers who observed a link between technology and student success also were more likely to be “very comfortable” allowing students to have choice about how they learn, personalizing and differentiating instruction to meet individual student needs and using data to inform their instructional practice.⁵⁶



We know from research that students of color feel more disconnected from school than more affluent, white students so any tool that can address that and help students and their parents feel more connected is a good tool.

– Dr. Nancy Duchesneau,
Senior P-12 Research
Associate at The Education
Trust

The Opportunity: Innovation to Fuel Meaningful Connections

Much of the research on relationships and learning is relatively new, as is our experience with digital technology in the classroom. We are still in the early days of exploring ways technology can enhance student-teacher relationships in meaningful, positive ways. Given the importance of relationships, this is an area worth further investment and innovation.

“Every student—every person—has an internal narrative of who they are relative to the world around them,” said Dr. Uncapher of AERDF. “This helps form their identity, and it’s an incredibly powerful learning mechanism because it is perpetually recursive. That internal narrative never stops.” As a result, “small shifts in a student’s identity—their perception of who they are as a learner—can yield massive and persistent learning outcomes, including academic outcomes,” Dr. Uncapher continues, “and one trigger for shifting that learner identity are a student’s relationships.”

In other words, small investments in improving positive relationships—that in turn shape individual learner identity—could yield significant learning dividends.

Not only is it worth investing in relationship-building, but it is also an area ripe for innovation. “There is a large body of literature on systematic interventions that support positive relationships with students, and anything that can be systemized can also be optimized through technology,” said Pianta, “and we have seen this first hand through the remote training and support we provide to teachers.” However, we should not assume that all innovation in this space will involve student-facing technology; indeed there are a handful of ways in which technology innovations can both avoid interfering with and help foster, positive relationship development:



Opportunities abound for the development and deployment of inclusive technologies that create experiences that enhance relationships and enable students to flourish as individuals. But it’s critical to develop these tools with teachers—and for teachers—to ensure that the technology supports their efforts and doesn’t get between them and their students.

— Jean-Claude Brizard, CEO of Digital Promise

1 Freeing up Time to Build Relationships: As noted above, teaching during the pandemic has not been easy, adding more work for already-overburdened educators. Indeed, a recent survey of Portland Public School teachers found that more than 80% reported they have more work than they can get done in a typical work day.⁵⁷ With so much on their plates, it is not surprising that teachers may struggle to find time in class to focus on relationship building with students.⁵⁸ Julia Fallon, the CEO of the State Education Technology Directors Association, notes that this burden doesn't land solely on the shoulders of teachers: "The cognitive load we place on students is significant, particularly when we don't consider how systems work together to provide a seamless and easy experience for students." She continues, "technology is really good at automating repetitive, formulaic, administrative tasks and freeing up human time for other, more-human things."

So one way technology can support relationship building is by freeing up more time to give both teachers and students the opportunity to get to know each other. More directly, technology is also being deployed in clever ways to help administrators find efficiencies in the way they use time in their master calendar. Abl is leveraging modern technology to help districts find innovative uses for time in their calendar, including to create more opportunities to support relationship building, SEL and equity.

2 Supporting Teacher Capacity Building: Teacher training and support in building positive relationships is another area where technology can add value beyond the somewhat-common "online course." "At UVA, we built an incredibly effective model for online coaching that involved teachers sharing videos of themselves in the classroom to our coaches who then provided feedback to the teachers," said Pianta. This feedback loop was entirely remote. "Our coaches never met the teachers," continued Pianta, "but they built an effective relationship that, in turn, improved interactions with students who then performed on average 10 percentage points higher on academic assessments."

3 Enhancing student-teacher engagement: One final opportunity for innovation is the further development of tools that can bring teachers and students together, and provide supports that can enhance (and not interfere with) relationship building. Imagine, for instance, a platform that not only brings teachers and students together, but also prompts teachers in ways that can support positive student learner identity development. "Opportunities abound for the development and deployment of inclusive technologies that create experiences that enhance relationships and enable students to flourish as individuals," said Jean-Claude Brizard, the CEO of Digital Promise. "But it's critical to develop these tools with teachers—and for teachers—to ensure that the technology supports their efforts and doesn't get between them and their students."

Conclusion

In focusing on the challenges of the COVID-19 era, it is also easy to romanticize what came before schools shut down and harken for a return to “normal.” But the “normal” educational model wasn’t working for far too many students.

As LEAP Innovations Founder and CEO [Phyllis Lockett] put it: “In many ways, the pandemic exposed the deep cracks in our education system that predate the school closures. As we look to the future, it’s clear that it’s insufficient to merely ‘patch the cracks.’ Instead, we need to reimagine school, leveraging the lessons of the past 18 months as a reminder of what’s really important for student success in school and in life.”⁵⁹

As educators, families, caregivers, and students continue to wrestle with the repercussions of the pandemic it would be easy to focus on what has been “lost” and lose sight of the future. Instead, “we need to meet this moment and seize the huge silver-lining opportunity before us by embracing the forced learnings and innovation brought on by the pandemic. We need to take these advancements and reimagine better learning experiences so that we can truly serve all students in ways that prepare them to address tomorrow’s challenges,” said Chris Rush, Senior Advisor for Innovation & Educational Technology, Office of the Secretary at U.S. Department of Education. As we take this opportunity to



[W]e need to meet this moment and seize the huge silver-lining opportunity before us by embracing the forced learnings and innovation brought on by the pandemic. We need to take these advancements and reimagine better learning experiences so that we can truly serve all students in ways that prepare them to address tomorrow’s challenges.

– Chris Rush, Senior Advisor to the Secretary for Innovation and Director of Educational Technology, U.S. Department of Education

reimagine schools, it is clear that positive relationships must be at the center of student learning experiences. They are foundational not only for students’ cognitive development, but for their social-emotional well-being. Children need strong bonds with a variety of adults in their lives—

especially teachers—to develop a sense of belonging and the feeling that they’re valued. When those ingredients are in place, students are better able to learn and more likely to thrive in rigorous academic settings.

“Ultimately, our goal is to have students be independent, confident, and powerful in their learning, and to really just take that and fly away,” said Janette Stephenson, an English teacher at Columbia High School in Nampa, Idaho. “Those relationships are so key in their success. That makes me a better teacher, too. I’ve learned a lot from my students.”

What we hope this paper also makes clear is the potential role that technology can play in supporting the development

of strong relationships between educators, students, and families.

As the experience of the past two years has also made clear however, not every use of technology in the classroom will serve to benefit the development of relationships. Indeed, as stated by Dr. Joseph South, Chief Learning Officer at ISTE, “many of today’s edtech tools have been designed in ways that tend to isolate a student in front of a screen.” But this need not be the case, he continues, because “when it’s built right—grounded in learning and developmental science, in collaboration with teachers and with a lens on fostering more connections—technology has the potential to greatly expand the web of supportive connections in a child’s life.”

Endnotes

- ¹ Lockett, P. (2020). How One School Network's Focus On Student Agency Has Prepared Students For At-Home Learning Amid COVID-19. *Forbes*. <https://www.forbes.com/sites/phyllislockett/2020/03/27/how-one-school-networks-focus-on-student-agency-has-prepared-students-for-at-home-learning-amid-covid-19/>
- ² Willen, L. (2020). Coronavirus Becomes Unprecedented Test for Teacher-Student Relationships. *The Hechinger Report*. <https://hechingerreport.org/coronavirus-becomes-unprecedented-test-for-teacher-student-relationships/>
- ³ Ibid.
- ⁴ Ibid.
- ⁵ Kogan, V. & Lavertu, S. (2021). How the COVID-19 Pandemic Affected Student Learning in Ohio: Analysis of Spring 2021 Ohio State Tests. *The Ohio State University*. https://glenn.osu.edu/sites/default/files/2021-10/210828_KL_OST_Final_0.pdf
- ⁶ (2020). Tennessee Releases Data Showing Significant Learning Loss Among K-12 Students. *Office of the Governor*. <https://www.tn.gov/governor/news/2020/9/23/tennessee-releases-data-showing-significant-learning-loss-among-k-12-students.html>
- ⁷ Lopes, L., Kirzinger, A., Hamel, L., Sparks, G., Kearney, A., Stokes, M. & Brodie, M. (2021). KFF COVID-19 Vaccine Monitor: The Impact Of The Coronavirus Pandemic On The Wellbeing Of Parents And Children. *KFF*. <https://www.kff.org/coronavirus-covid-19/poll-finding/kff-covid-19-vaccine-monitor-the-impact-of-the-coronavirus-pandemic-on-the-wellbeing-of-parents-and-children>
- ⁸ Lockett, P. (2021). Why We Must Look To The Science Of Learning To Strengthen Student-Teacher Relationships. *Forbes*. <https://www.forbes.com/sites/phyllislockett/2021/09/22/why-we-must-look-to-the-science-of-learning-to-strengthen-student-teacher-relationships/?sh=a3bf5115f591>
- ⁹ Reich, J. (2021). Ed Tech's Failure During the Pandemic and What Comes After. *Phi Beta Kappan*. <https://kappanonline.org/education-tech-failure-pandemic-what-comes-after-reich/>
- ¹⁰ Herold, B. (2021). Schools Are Flush With Stimulus Money. Will They Waste It on Unproven Technology? *EdWeek*. <https://www.edweek.org/technology/schools-are-flush-with-stimulus-money-will-they-waste-it-on-unproven-technology/2021/04;> see also Turner, C. (2021). Schools Are Getting Billions In COVID Relief Money; Here's How They Plan To Spend It. *NPR*. <https://www.npr.org/2021/09/01/1033213936/surveyschool-superintendents-federal-covid-relief-money-spending>.
- ¹¹ Schwartz, H. & Hill, P. (2021). Analysis: Survey of District Leaders Shows Online Learning Is Here to Stay. Some Ways of Making It Work for Students Beyond the Pandemic. *The 74 Million*. <https://www.the74million.org/article/analysis-survey-of-district-leaders-shows-online-learning-is-here-to-stay-some-ways-of-making-it-work-for-students-beyond-the-pandemic/>; see also Society for Industrial and Applied Mathematics (2021); One in Three High School Students Favor Keeping an Online Component to their Education Post-Pandemic, Survey Shows. *GlobeNewswire*. <https://www.globenewswire.com/news-release/2021/04/05/2204362/0/en/One-in-Three-High-School-Students-Favor-Keeping-an-Online-Component-to-their-Education-Post-Pandemic-Survey-Shows.html>
- ¹² Catelo, M. (2020). Ed Tech Needs Will Increase, Educators Say. *EdTech*. <https://edtechmagazine.com/k12/article/2020/11/ed-tech-needs-will-increase-educators-say>
- ¹³ (n.d.). Use of Technology in Teaching and Learning. *U.S. Department of Education*. <https://www.ed.gov/oii-news/use-technology-teaching-and-learning>
- ¹⁴ Jones, S. & Khan, J. (2018) The Evidence Base for How Learning Happens: A Consensus on Social, Emotional, and Academic Development. *American Educator*, 41(4) 16-21. <https://files.eric.ed.gov/fulltext/EJ1164389.pdf>
- ¹⁵ Jacobson, L. A., Williford, A. P., & Pianta, R. C. (2011). The role of executive function in children's competent adjustment to middle school. *Child Neuropsychology*, 17(3), 255–280. <https://doi.org/10.1080/09297049.2010.535654>
- ¹⁶ Gordon, J., Downey, J., & Bangert, A. (2013). Effects of a school-based mentoring program on school behavior and measures of adolescent connectedness. *The School Community Journal*, 23(2), 227-248. <https://psycnet.apa.org/record/2014-03273-010>

- ¹⁷ Osher, D., Cantor, P., Berg, J., Steyer, L., & Rose, T. (2018). Drivers of human development: How relationships and context shape learning and development. *Applied Developmental Science*, 24(1) 6-36. <https://doi.org/10.1080/10888691.2017.1398650>
- ¹⁸ Ibid.
- ¹⁹ EdTrust & MDRC. (2021). The Importance of Strong Relationships. *The Education Trust*. <https://edtrust.org/resource/the-importance-of-strong-relationships/>
- ²⁰ Darling-Hammond, L., Cantor, P., Hernández, L. E., Schachner, A., Plasencia, S., Theokas, C., & Tijerina, E. (2021). Design Principles for Schools: Putting the Science of Learning and Development Into Action. *Learning Policy Institute and Turnaround for Children*. <https://k12.designprinciples.org/>
- ²¹ Ibid.
- ²² Ibid.
- ²³ Ibid.
- ²⁴ Ibid.
- ²⁵ Pianta, R. & La Paro, K. (2003). Improving Early School Success. *ASCD Educational Leadership*, 60(7), 24-29. <http://www.ascd.org/publications/educational-leadership/apr03/vol60/num07/Improving-Early-School-Success.aspx>
- ²⁶ Wexler, N. (2011). Teachers Think Kids Need Science And Social Studies—But Still Focus On Reading And Math. *Forbes*. <https://www.forbes.com/sites/nataliewexler/2020/01/13/teachers-think-kids-need-science-and-social-studies-but-still-focus-on-reading-and-math/?sh=2e0672aa318f>; see also Robelen, E. W. (2011). Most Teachers See The Curriculum Narrowing, Survey Finds. *Education Week*. <https://www.edweek.org/teaching-learning/most-teachers-see-the-curriculum-narrowing-survey-finds/2011/12>
- ²⁷ Nagaoka, J., Farrington, C., et al. (2015). Foundations for Young Adult Success: A Developmental Framework. *University of Chicago*. <https://consortium.uchicago.edu/publications/foundations-young-adult-success-developmental-framework>
- ²⁸ Mehta, K. (2018). US Businesses Will Suffer If We Don't Invest in Social-Emotional Learning. *Committee for Children*. <https://www.cfchildren.org/blog/2018/09/us-businesses-will-suffer-if-we-dont-invest-in-social-emotional-learning/>
- ²⁹ Darling-Hammond, L. & Cook-Harvey, C. (2018). Educating the Whole Child: Improving School Climate to Support Student Success. *Learning Policy Institute*. <https://learningpolicyinstitute.org/product/educating-whole-child-report>
- ³⁰ National Commission on Social, Emotional, & Academic Development. (2019). From a Nation at Risk to a Nation at Hope. *The Aspen Institute*. https://nationathope.org/wp-content/uploads/2018_aspen_final-report_full_webversion.pdf
- ³¹ Blad, E. (2017). Principals Like Social-Emotional Learning. Here's Why Schools Struggle With It. *EdWeek*. <https://www.edweek.org/leadership/principals-like-social-emotional-learning-heres-why-schools-struggle-with-it/2017/11>
- ³² Layton, L. (2015). U.S. schools are too focused on standardized tests, poll says. *Washington Post*. https://www.washingtonpost.com/local/education/us-schools-are-too-focused-on-standardized-tests-poll-finds/2015/08/22/4a954396-47b3-11e5-8e7d-9c033e6745d8_story.html
- ³³ Oxford University Press. (2021). To what extent does the promotion of wellbeing in schools lead to improved educational outcomes? Oxford. <https://oxfordimpact.oup.com/wp-content/uploads/2021/04/Wellbeing-impact-study-summary-report.pdf>
- ³⁴ Durlak, J., Weissberg, R., Dymnicki, A., Taylor, R., & Schellinger, K. (2011). The impact of enhancing students' social and emotional learning: A meta-analysis of 25 school-based universal interventions. *Child Development*, 82(1), 405-432. <https://www.casel.org/wp-content/uploads/2016/01/meta-analysis-child-development-1.pdf>
- ³⁵ Jones, S. & Khan, J. (2018). The Evidence Base for How Learning Happens: A Consensus on Social, Emotional, and Academic Development. *American Educator*, 41(4), 16-21. <https://files.eric.ed.gov/fulltext/EJ1164389.pdf>
- ³⁶ Collaborative for Academic, Social, and Emotional Learning. (n.d.) SEL Policy at the State Level. *CASEL*. <https://casel.org/systemic-implementation/sel-policy-at-the-state-level/>
- ³⁷ Trust, T. (2020). The 3 Biggest Remote Teaching Concerns We Need to Solve Now. *Edsurge*. <https://www.edsurge.com/news/2020-04-02-the-3-biggest-remote-teaching-concerns-we-need-to-solve-now>
- ³⁸ The New York Times. (2020). Teachers and Students Describe a Remote Learning Life. *The New York Times*. <https://www.nytimes.com/2020/04/23/>

education/learning/coronavirus-teachers-students-remote-learning.html

³⁹ Willingham, A.J. (2020) Parents' biggest frustration with distance learning. *CNN*. <https://www.cnn.com/2020/09/08/us/distance-learning-problems-parents-trnd/index.html>

⁴⁰ Nierenberb, A. (2020). Parents, Students and Teachers Tell Their Stories of Remote Learning. *The New York Times*. https://www.nytimes.com/2020/10/14/education/learning/students-parents-teachers-remote-stories.html?mc=aud_dev&ad-keywords=auddevgate&gclid=Cj0KCQjwlOmLBhCHARIsAGiJg7kHXys2bb3yGfxF6cDPIGmhkdCm_Lz7wZeBjX324PMpvIXQMzZaD8aAtcPEALw_wcB&gclid=aw.ds

⁴¹ Van Ness Elementary School. <https://www.vannesselementary.org/>

⁴² Whole Child Model. <https://www.wholechildmodel.org/strong-start>

⁴³ Murray, D. (2018). Digital Technology is Killing our Relationships. *Head Heart Hand*. <https://headhearthand.org/blog/2018/02/22/28026/>

⁴⁴ Morris, C. (2015). Is technology killing the human touch? *CNBC Disruptor 50*. <https://www.cnn.com/2015/08/15/gy-killing-the-human-touch.html>

⁴⁵ Morgenstern, J. (2020). Does Technology Bring Us Closer Together or Further Apart? *Julie Morgenstern Enterprises*. <https://www.juliemorgenstern.com/tips-tools-blog/2020/2/24/does-technology-bring-us-closer-together-or-further-apart>

⁴⁶ Reese, J. (2019). New Study Shows Impact of Technology on Relationships. *Utah State University*. <https://www.usu.edu/today/story/new-study-shows-impact-of-technology-on-relationships>; see also Hall, E. D. (2018). Using Communication Technology to Improve Relationships. *Psychology Today*. <https://www.psychologytoday.com/us/blog/conscious-communication/201808/using-communication-technology-improve-relationships>

⁴⁷ Stelitano, L., Doan, S., Woo, A., Diliberti, M.K., Kaufman, J., & Henry, D. (2020). The Digital Divide and COVID-19: Teachers' Perceptions of Inequities in Students' Internet Access and Participation in Remote

Learning. *Rand Corporation*. https://www.rand.org/pubs/research_reports/RR134-3.html

⁴⁸ Ibid.

⁴⁹ Seale, C. (2020). Distance Learning Feels Much Closer: Lessons From Education Leaders Of Color Responding To The COVID-19 Pandemic. *Forbes*. <https://www.forbes.com/sites/colinseale/2020/05/05/distance-learning-feels-much-closer-lessons-from-education-leaders-of-color-responding-to-the-covid-19-pandemic/?sh=4ecf18c21bcd>

⁵⁰ Ibid.

⁵¹ Ibid.

⁵² Hirsh-Pasek K., Evans, N., & Michnick-Golinkoff, R. (2019). Screen time for children: Good, bad or it depends? *Brookings Institute*. <https://www.brookings.edu/blog/education-plus-development/2019/02/06/screen-time-for-children-good-bad-or-it-depends/>

⁵³ Summit Learning. (2021). Summit Learning Teacher Feedback Study: Review of Key Findings from Spring 2021 Data Collection. *Project Tomorrow*. <https://tomorrow.org/speakup/Summit-Learning-Teacher-Feedback-Study-National-Report.html>

⁵⁴ Ibid.

⁵⁵ Ibid.

⁵⁶ Ibid.

⁵⁷ Benner, M. (2021). Survey shows Portland teachers are overwhelmed and overstretched. *KGW8*. <https://www.kgw.com/article/news/local/portland-teachers-overwhelmed/283-2acec8-136c-4b10-a883-278aae08bc82>

⁵⁸ Cassel, S. (2018). Simple Relationship-building Strategies. *Edutopia*. <https://www.edutopia.org/article/simple-relationship-building-strategies>

⁵⁹ Summit Learning. (2021). School Profile: Four Years Later, Students are Thriving at Columbia High School in Nampa, Idaho. *Summit Learning*. <https://blog.summitlearning.org/2021/05/school-profile-four-years-later-students-are-thriving-at-columbia-high-school-in-nampa-idaho/>