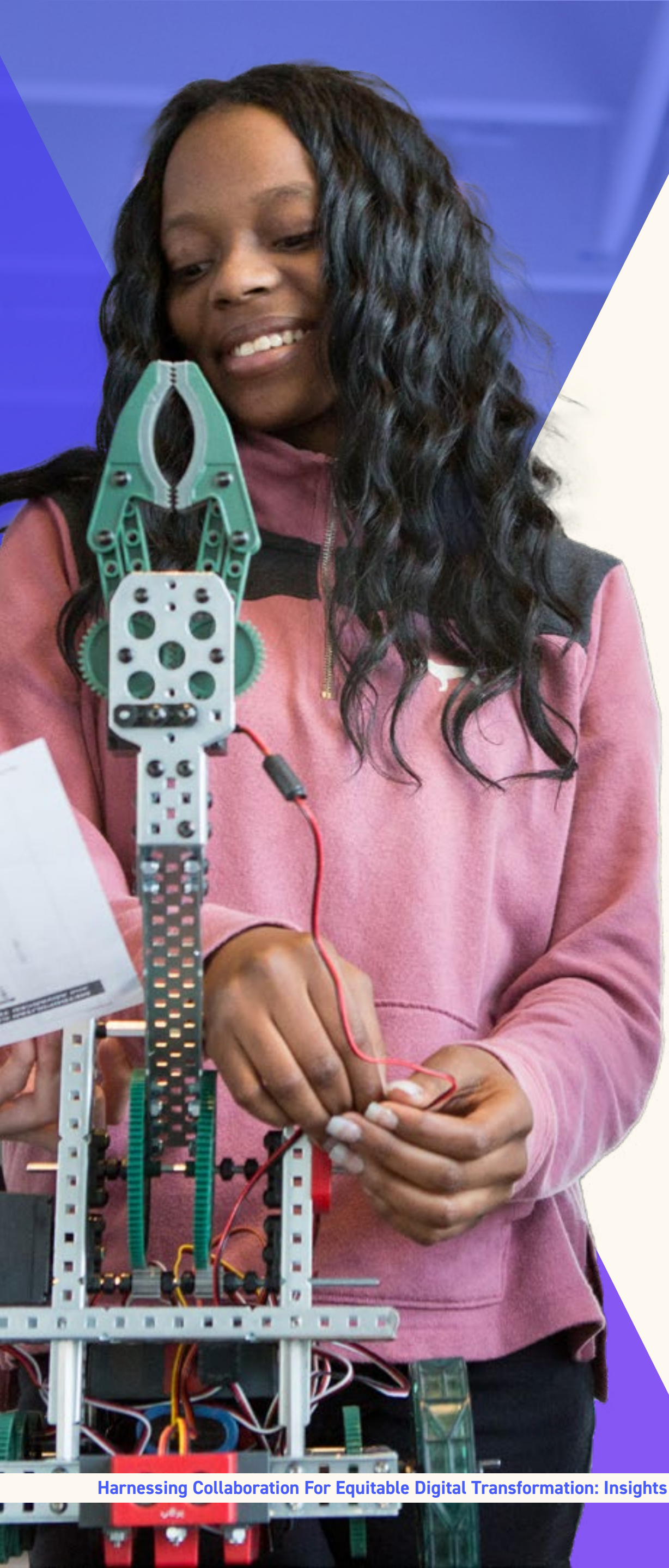# Harnessing Collaboration For Equitable Digital Transformation:

Insights From An Event Series With Digital Promise

July 2023

Foreword

Having access to powerful, lifelong learning opportunities gives learners and earners a distinct sense of fulfillment in their lives. In addition to providing pathways to success, it can help to create new points of collaboration, connection, and reflection, and can challenge existing perspectives.

As defined by Digital Promise, **"Powerful Learning" is a set of guiding principles that educators can use to more intentionally craft learning experiences that engage the hearts and minds of learners**, ultimately leading to greater well-being, fulfillment, and economic mobility through increased holistic, lifelong success.[1] It is up to us — learners, earners, employers, advocates, funders, leaders, and policymakers — to scale equitable digital transformation in education systems and the workforce so that these learning opportunities can be accessed more readily by more people.

The development of digital tools enhances powerful learning. Amidst rapid technological advances, we have an opportunity to intentionally design educational systems and workplaces to be flexible and adaptable for the easy integration of new digital tools. Digital transformation describes the act of building that capacity, know-how, and infrastructure so that systems are flexible and adaptable, responding to learner needs and ultimately leapfrogging digital inequalities in the classroom, in the workplace, and

at the systems level.[2] This shift requires us to adjust our mindsets and embrace technology as a powerful enabler for disruptive innovation that will achieve more equitable learning environments for all.

In order to include every learner and earner in this digital transformation, **we must prioritize the needs and aspirations of historically and systematically excluded groups so as not to widen gaps in the digital divide**. Hector Mujica, Head of Economic Opportunity for the Americas at Google.org, said it well: "Skills disruption is happening faster and faster and that flywheel is evolving quicker with new advances, skills, and job requirements popping up in the market at a much more rapid pace than ever before. There is an increased need in the market for digital skills. Nearly every single job is going to, at some point, require a degree of digital proficiency." Rapid digital transformation can result in widening gaps for communities to access, afford, and adopt digital tools, so it's crucial that we bring this into the design of equitable digital transformation with leaders across the sector.

Together with NationSwell, through a series of events with cross-sector leaders, we explored how we might promote equitable digital transformation not only in the K-12 education space, but in other industries, as well. Above all, digital transformation hinges on digital equity

— and an effort to ensure that learners and earners of all backgrounds and identities can fully participate in society, education, and the workforce, while also building strong connections with one another and leading meaningful lives. To discover solutions and identify opportunities for driving meaningful and authentic impact, leaders — including learners, educators, policymakers, designers, researchers, and community members — must come together to harness collective action that will yield sustainable digital equity. This report fleshes out the learnings from our conversations with some of these leaders.

As Digital Promise charges toward our mission to shape the future of learning and advance equitable education systems, scaling equitable digital transformation in classrooms and workplaces across communities remains a top priority. We envision a world where every person, especially historically and systematically excluded learners, has the knowledge and tools they need to engage in powerful learning experiences and achieve postsecondary credentials that will lead to a life of well-being, fulfillment, and economic mobility. **Digital transformation is upon us, and each of us must take an active role in scaling it thoughtfully.**

—Jean-Claude Brizard,
President and CEO,
Digital Promise

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Introduction

This report highlights key insights that emerged from a series of events hosted by Digital Promise and facilitated by NationSwell. Digital Promise, a global nonprofit working to expand opportunity for every learner, works with educators, researchers, technology leaders, and communities to design, investigate, and scale innovations that support learners, especially those who have been historically and systematically excluded. NationSwell, an award-winning social impact company, offers essential support to purpose-driven organizations and leaders so that they can take their impact to the next level. Through a robust membership community and the nation's leading social impact studio, NationSwell supports these impact leaders on a range of our world's most pressing issues.

The NationSwell Studio partnered with Digital Promise to surface insights and collaborate with other leaders to push toward increasing digital equity and closing the digital skills gap. Digital Promise and NationSwell hosted three events to understand and elevate what other leaders are doing, while also identifying promising solutions and places for partnership across the sector.

The first event, *Future-Proofing Education*, identified key social themes necessary for promoting powerful learning, including stable housing, teacher well-being, family engagement, and physical health. The discussion surfaced solutions to support these social conditions in order to future-proof learning systems by creating environments that are flexible and adaptable to technological advances. The second event, *Digital Equity and the Future of Work*, focused on how leaders might promote community-first collective action to build a more equitable and inclusive future workforce. In the final event, *Equitable Digital Transformation: The Future of Learning and Earning*, a discussion with leaders in the education, philanthropic, and nonprofit sectors focused on elevating promising solutions to promote an equitable, scalable approach to digital transformation of learning and work and centering learners and earners in all that innovation has to offer.

By convening leaders in both education and workforce development, the project surfaced the key insights described in this report. This report identifies areas where the sector might build partnerships for greatest impact — highlighting the momentum across the United States for urgent equitable digital transformation.
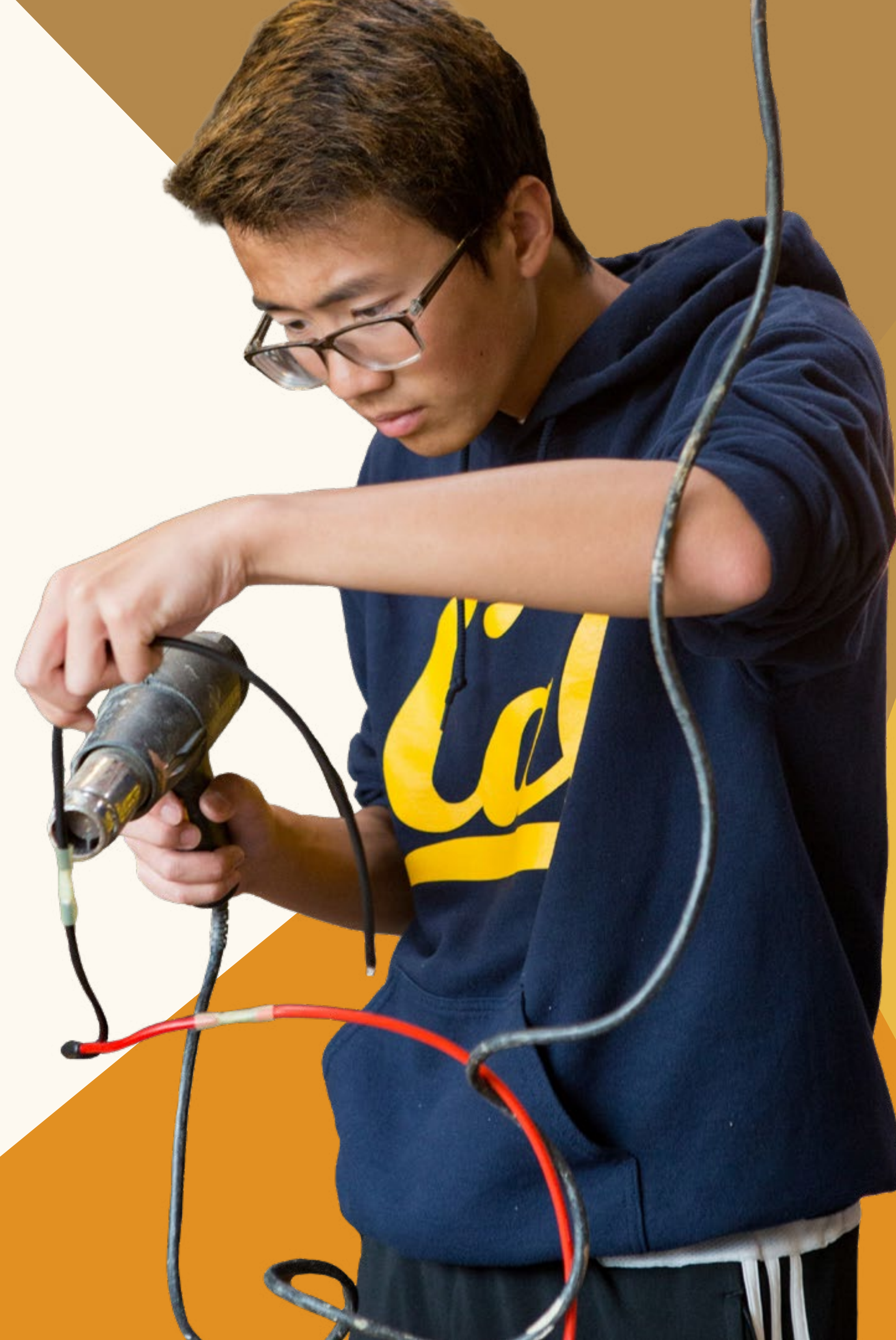
The Insights at a Glance

1. **Resilient, digitally equitable education systems need to be in place and scaled** to create adaptable learning environments in preparation for any future disruptions.

2. **Human-centered technology that prioritizes historically and systematically excluded learners** can foster a deep integration of the relationship between teachers, learners, families and learning content.

3. **The social conditions a learner faces are integral to the longevity of learning.** To promote equity and powerful learning, technology solutions must respond holistically to learner variability.

4. **Digital tools have the potential to widen talent pools for employers and create opportunities** for learners and earners. However, without prioritizing equitable design, historically and systematically excluded communities will be left behind yet again.

5. **A trusted and verifiable digital system that can accurately identify the skills needed for a job can empower learners and earners** to reflect those skills back to employers by customizing what information they give. This alters hiring and education systems to be centered on the needs, experiences, and agency of the earner and learner.

6. **The United States needs a cultural narrative shift** to promote multiple pathways for learning and skilling. Despite industry efforts to shift to more equitable practices, biases continue to dominate hiring decisions and emphasize diplomas or degrees over skills-based learning.

7. **Learning and earning will drastically transform as technology rapidly advances. Those most impacted by the digital divide have the deepest knowledge of potential solutions for propelling equitable digital transformation forward.** Leaders must co-design solutions with those closest to the problem to be the most impactful.

II.
Future-Proofing Education With Digital Tools To Promote Powerful Learning

Education systems must actively seek out and participate in approaches that center inclusive innovation in order to facilitate digital transformation and keep up with rapidly advancing digital tools in the classroom. By not doing so, the digital transformation of education fails to center learners and educators, missing opportunities to promote powerful learning experiences for all.

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Adults without secondary-level skills are predicted by

2030

–Rebecca Winthrop, Brookings, *Leapfrogging Inequality: Remaking Education to Help Young People Thrive*

In 2018, education experts predicted that by 2030 there will be 825 million adults without secondary-level skills, which will disproportionately affect excluded youth.[3] It was estimated as taking up to a century for the most excluded youth to achieve similar educational levels to the wealthiest in society today. Then, the COVID-19 pandemic forced the learning landscape to abruptly shift to digital, distance learning. New technologies emerged overnight that would become a new normal for learners. This dramatic upheaval required education systems to respond quickly to the crisis, revealing an unprepared system that could not adapt nimbly to center the experiences of learners. In 2021, test scores in both reading and math were significantly lower than they were in 2019.[4] And in 2023, research revealed that the students with the largest learning deficits from the pandemic's disruption are learners from lower socio-economic backgrounds.[5] This extends to learners' mental health: A variety of studies found children and young adults, especially those living in rural areas and those with lower household incomes, were more anxious, depressed, and distressed in 2020-2021 than prior to the pandemic.[6] As the research makes clear, equitable digital transformation — at scale nationally — is urgently needed.

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As we've seen over the last two years, educational equity, crisis preparedness, and access to technology are deeply intertwined. When we create more individualized, enhanced learning experiences inside the classroom by giving our teachers, students, and administrators innovative tools and building the necessary technological infrastructure, schools will be ready for anything.

—Jean-Claude Brizard, Digital Promise, *Let's Use the Pandemic as a Dress-Rehearsal for Much-Needed Digital Transformation*

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Redefining success for students requires coordinated efforts, from the classroom to the school to the community and greater society. It is critical to develop and articulate a rigorous, comprehensive strategy that includes designing classrooms that build on students' learning and mastery of core competencies, and in turn directly influence school design. With agility and perseverance, a mutually reinforcing flow presents the most effective path to drive impact and transformation.

—Jean-Claude Brizard, Michael A. Campbell, and Cigdem Ertem,
 How Schools Can Prepare Students for a 21st Century World

Together with education equity-focused organizations like Digital Promise, the United States and the rest of the world have an opportunity to redefine the future of education to increase powerful, lifelong learning for all people. In a recent publication, *Breaking With the Past: Embracing Digital Transformation in Education,* Digital Promise reveals how digital transformation can scale learner-centered frameworks; address historic inequities; close learning gaps; and prepare for any future disruptions of teaching and learning. This calls for cross-sector investments to equip learners with the ability to own and manage their lifelong learning data, prepare teachers with training on tools like artificial intelligence, and leverage internet service providers to extend high-speed internet access at affordable rates to all communities.

In this section, we detail three key insights that emerged from the events hosted by Digital Promise and NationSwell related to equitable digital transformation in the educational system.

Insight 1:

Resilient, digitally equitable education systems need to be in place and scaled to create adaptable learning environments in preparation for any future disruptions.

Looking to the future, education systems need to get ahead of the technology curve to ensure their schools have access to sustainable tools for years to come. With this forward-thinking switch, systems can proactively pivot to be adaptable and better equipped for a digital transformation, rather than needing to deploy rapid-response solutions. While ensuring access to affordable technology remains a priority, it cannot be the end goal. More than ever before, learners and teachers require training, skilling, and education. The education sector needs to increase digital fluency for learners and earners to ensure equity in digital transformation across learning systems.

The business community has a role in building resilient, equitable systems. For example, Verizon, in partnership with Digital Promise, equips every learner and educator at select middle and high schools across America with a device and up to four years of data empowering 24/7 learning in and out of the classroom. In addition to free technology and access, Verizon Innovative Learning Schools receive extensive teacher training, support,

and the opportunity to engage in a unique, immersive curriculum to leverage technology in their classrooms. This program has served 553,000 learners and 30,000 teachers in 592 schools across the country, and targets both access to tools and the incorporation of those tools into the curriculums of schools. More than 70% of teachers in Verizon Innovative Learning Schools reported feeling prepared for distance learning, with 93% crediting the program for having made the transition easier, highlighting the success of this partnership.[7] Programs like this, working holistically throughout a school district, have the potential to build a strong, digitally equitable foundation that learning environments can sustain after a program has ended by providing both access to tools and the training to promote the powerful use of technology.

Philanthropies are also emerging as leaders in digital innovation in education. For example, the National Science Foundation, in partnership with the Bill and Melinda Gates Foundation, Schmidt Futures, and the Walton Foundations, has created and sponsored the Visionary Interdisciplinary Teams Advancing Learning (VITAL) Prize

Challenge, which is managed by Digital Promise, to fund, resource, and build capacity for teams who are focused on advancing use-inspired innovations to equitably improve learning outcomes for all students and broaden learner engagement, particularly for students from historically and systematically excluded groups. This prize challenge centers on inclusive innovation and is aimed at supporting promising new tools and technologies that have a high potential to make a transformational impact nationwide.

In order to build systems that are strong amidst disruptions, leaders need to work together to create a shared vision for success and a strategy to integrate and maintain technologies.[8] This strategy must include addressing basic barriers to digital equity within resilient systems — like availability and affordability of devices and high-speed broadband — along with training to ensure tools are integrated into systems and leveraged appropriately.

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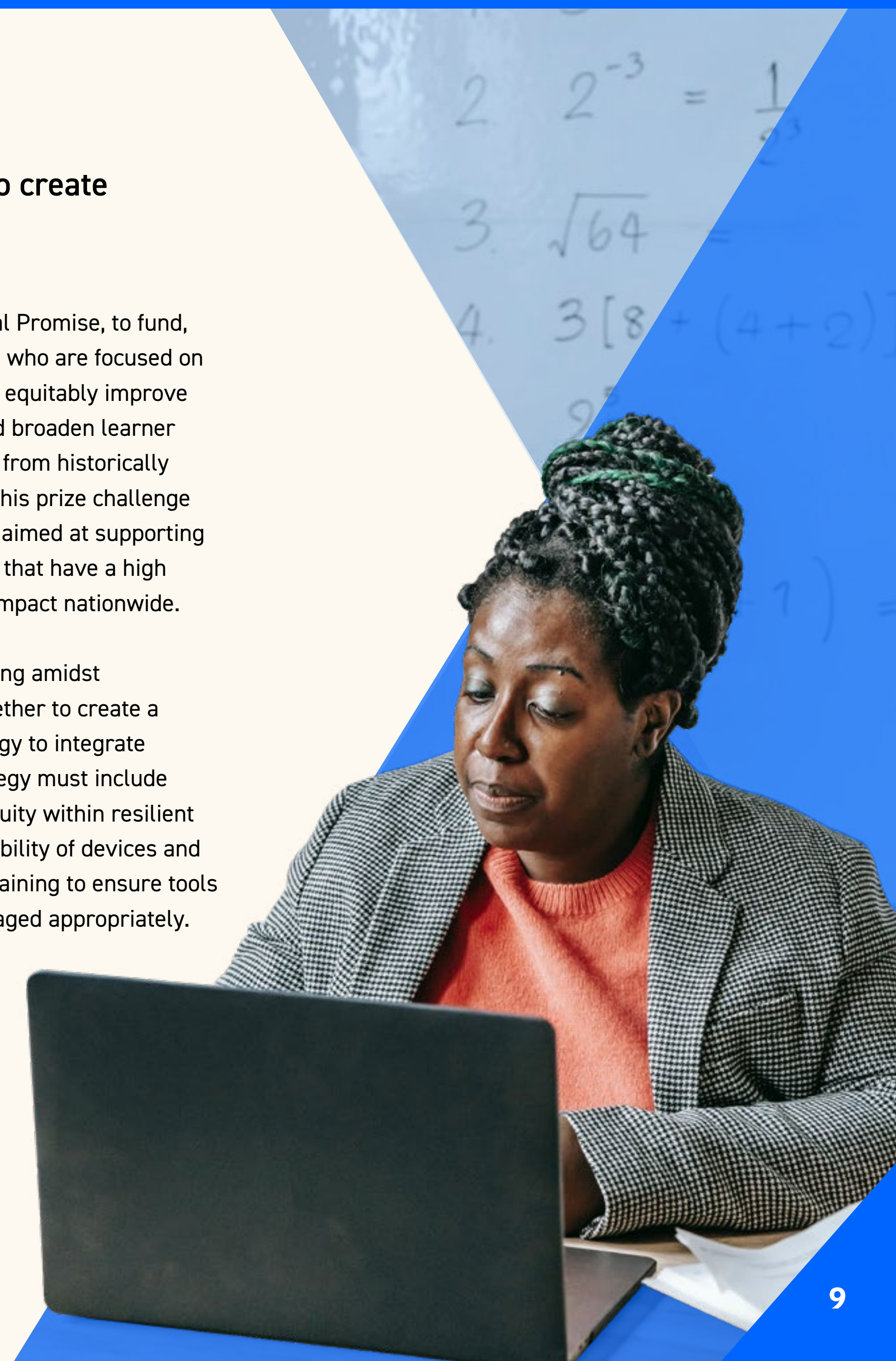
There is a growing need to reframe computing in classrooms as an inherently social and learned set of skills. The end goal is not to just provide access to digital devices — it is to develop the skills to use these tools for heightened learning, critical thinking and self-expression.

—Jean-Claude Brizard and Kelly Mills, *Students Need More Computer Training for Our Increasingly Digital World*
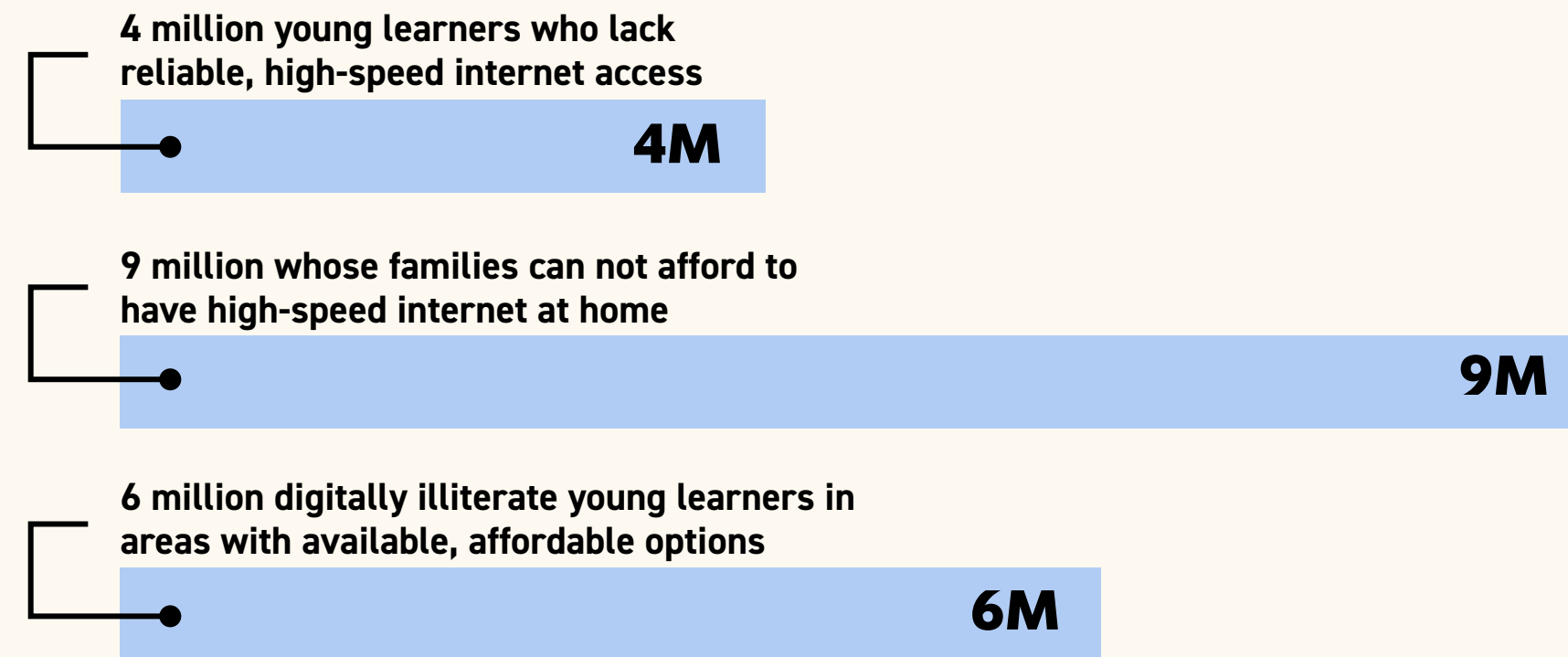
Challenges:

When promoting resilient systems for learning, leaders must keep digital equity at the forefront so that each and every individual has the ability to thrive when the next disruption to learning occurs. Three core challenges threaten digital equity: availability, affordability, and adoption of digital technologies.

4 million young learners who lack reliable, high-speed internet access

4M

9 million whose families can not afford to have high-speed internet at home

9M

6 million digitally illiterate young learners in areas with available, affordable options

6M

—Dr. Beth Holland, The Learning Accelerator, *From Digital Access to Digital Equity: Critical Barriers That Leaders and Policymakers Must Address to Move Beyond "Boxes & Wires,"*

First, the lack of availability of digital resources, like high-speed broadband connectivity, devices, and training, persists as a barrier to digital equity across the United States. Currently, there are about 4 million young learners who lack reliable, high-speed internet access. Those without access to developing technologies are set behind on developing the digital skills that are necessary to thrive in the evolving workplace and in the world as society moves to increasingly digital spaces.

Second, affordability and socio-economic factors remain issues across the United States as they impact learners' ability to access existing digital tools. Households in the United States with incomes less than $35,000 are much less likely to have broadband, and they account for 28.6% of all households nationwide.[10] This translates into about 9 million young learners whose families cannot afford to have high-speed internet at home.[9] 27% of U.S. households with incomes less than $30,000 a year are smartphone-only internet users compared to 6% of those

living in households earning $100,000 or more, revealing low-income households more frequently rely on smartphones for tasks that are created for desktops or laptops.[11] Without addressing this challenge, inequities in affording digital tools will widen the national wealth gap. Federal policy has tried to reduce barriers for more Americans. For example, in March, President Biden announced an additional $73 million investment to the $14.2 billion Affordable Connectivity Program, which promotes internet affordability by providing eligible low-income households with a $30 per month benefit for broadband service.[12] Bolstering this policy, the federal government announced a partnership with 20 private broadband providers in 2022 to cover more areas in both urban and rural locales and make $30 per month plans high-speed.[13] This partnership aimed to increase free coverage of high-quality digital tools for more people. While policymakers and corporations have made strides toward affordability, there remains a major challenge for many Americans to pay for the basic digital tools that are increasingly important for participating in learning and earning.

> *Broadband access is foundational to solving issues of digital equity, but it is not the end result. We must go further to empowering all people, but specifically those who have been historically and systematically excluded, with the digital skills and competency needed to thrive in an increasingly digital world.*

–Dr. D'Andre Weaver, Chief Digital Equity Officer, Digital Promise

Third, learners and educators alike face challenges to adopt digital tools into their everyday lives. Without the skills to utilize and leverage technology, affordable access is irrelevant. There are approximately 6 million digitally illiterate young learners in areas with available, affordable options.[14] Adoption rates lag in low-income communities compared to higher-income communities.[15] The burden not only rests on the learner — educators' digital literacy proves to be a large component of how and when powerful learning happens in the classroom. Many teachers and school leaders are not trained to teach using digital technologies. Therefore, teachers miss opportunities to utilize technology to promote engagement and design informative learning activities integrating new tools.[16] 50% of teachers report that a lack of training on technology is an obstacle to incorporating it into their lessons.[17] When teachers can model how to leverage technology systems, learners are better equipped to integrate their digital skills into their lifelong learning path.[18] Providing digital training to teachers and school staff provides a gateway for lifelong learning and a first step to get learners on a pathway for economic success.

RECOMMENDATIONS TO BUILD RESILIENT, DIGITALLY EQUITABLE EDUCATION SYSTEMS

Resilient, digitally equitable systems will help to address persistent inequities so every learner has the chance to thrive. These systems must have access to affordable learning tools and training on those tools to ensure equity and scalability.

1. Public policies need to persist in building sustainable infrastructure in all communities across the United States so that any learner — especially those who are historically and systematically excluded — will have access to low-cost, high-speed broadband and can access training to leverage the digital technologies in their lives.

CALL TO ACTION FOR INDIVIDUALS:

Advocate for federal and state policies — like the nine big plays outlined in *Delivering on the Promise of Digital Equity* — to close digital gaps and secure equity for learners and educators. For example, one of these nine plays calls for advocacy for national and state programs that close gaps in broadband access.

2. Businesses and philanthropies both have a role to play in creating long-lasting systems and championing an equitable digital transformation.

CALL TO ACTION FOR BUSINESS LEADERS AND PHILANTHROPISTS:

Invest in programs that expand access to digital tools. This will skill the future workforce, diversify talent pools, and strengthen local economies. In addition, business leaders should invest in the digital capacity of their workforce and can use micro-credentials to certify that learning, which will create transformative, long-lasting impact.

3. Teachers themselves need training and support so that they can better serve learners.

CALL TO ACTION FOR EDUCATORS:

Provide support and training for all teachers to grow their digital skills and integrate emerging technologies into their lesson plans, secure access to affordable tools, and equip them to utilize these tools in their work.

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Schools with reliable, ubiquitous access to the internet and digital tools have the greater potential to design more personalized and equitable content and instruction. Students in such schools can have a greater chance to be more engaged in learning, take ownership of their learning, set their own pace, and collaborate with educators and peers within and outside their school and district.

—Digital Promise & Verizon Innovative Learning Schools, *K-12 Leaders' Guide to Successful Technology Integration*

Insight 2:

Human-centered technology that prioritizes historically and systematically excluded learners can foster a deep integration of the relationship between teachers, learners, families and learning content.

Cross-sector leaders from across the nation are focused on how to center learners and educators in technology. Tools that fail to work for *all* users will fail to scale.

Human-centered approaches emphasize how the increasing capabilities of computers can augment human intelligence, enabling people to engage in teaching and learning experiences more deliberately.[19] Ivan Cestero, Director of Strategic Partnerships at Portal Schools, works on building microschools to personalize learning in order to empower learners to thrive. On how the sector might center users in digital transformation, Ivan said, "Design with learners, families, and teachers, rather than creating tech-centric tools that are retrofitted to their needs." Ivan's guidance rings true on both a micro- and macro-level.

On a local level, there are success stories where human-centered approaches prioritize historically and systematically excluded learners. For example, in the early 2000s, the Talladega County School District — a high-poverty county outside of Birmingham, Alabama — underwent a digital transformation. Their journey began by traveling the country to research models for utilizing emerging technology to support learning. The framework Talladega County Schools ultimately chose embraced access to drive digital equity based on the needs of their community. They became the first county in the state to ensure each learner had 1:1 access to a device, either a Chromebook or an iPad. This access created a learning experience that extended beyond the classroom, which laid the foundation for incredible results. As they made changes to apply technology skillfully and thoughtfully with Project-Based Learning and STEAM whilst maintaining relevance to the community, test scores rose — a legacy metric for measuring the success of a school district. Just as importantly, learners now feel empowered and have agency over their own learning. Since the program started, graduation rates across the district have jumped from 70% to 94% of Talladega County students completing high school. The success in Talladega exemplifies how to utilize learnings on a national scale and customize solutions locally, promoting a system that learns from the masses while taking a human-centered lens that prioritizes the needs of communities.

Human-centered digital tools have the potential to strengthen relationships between teachers, learners, learning content, and the family. Designers must take learning material into consideration as a core component of human-centered approach when building tools to make content engaging and personalized. Tools that are truly human-centered will continue to evolve through feedback loops from all parties to further iterate on how to boost engagement, building a future education syste that centers the experiences of users.

> *It was so much more than a device — the entire culture of our school district changed because of technology, and it brought a power to our students and to our staff that we had never experienced before, living in rural Alabama. I think that's been one of the greatest outcomes: to be able to show our students that they can go anywhere in the world through the power of technology.*
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> **–Dr. Suzanne Lacey, Superintendent, Talladega County Schools**

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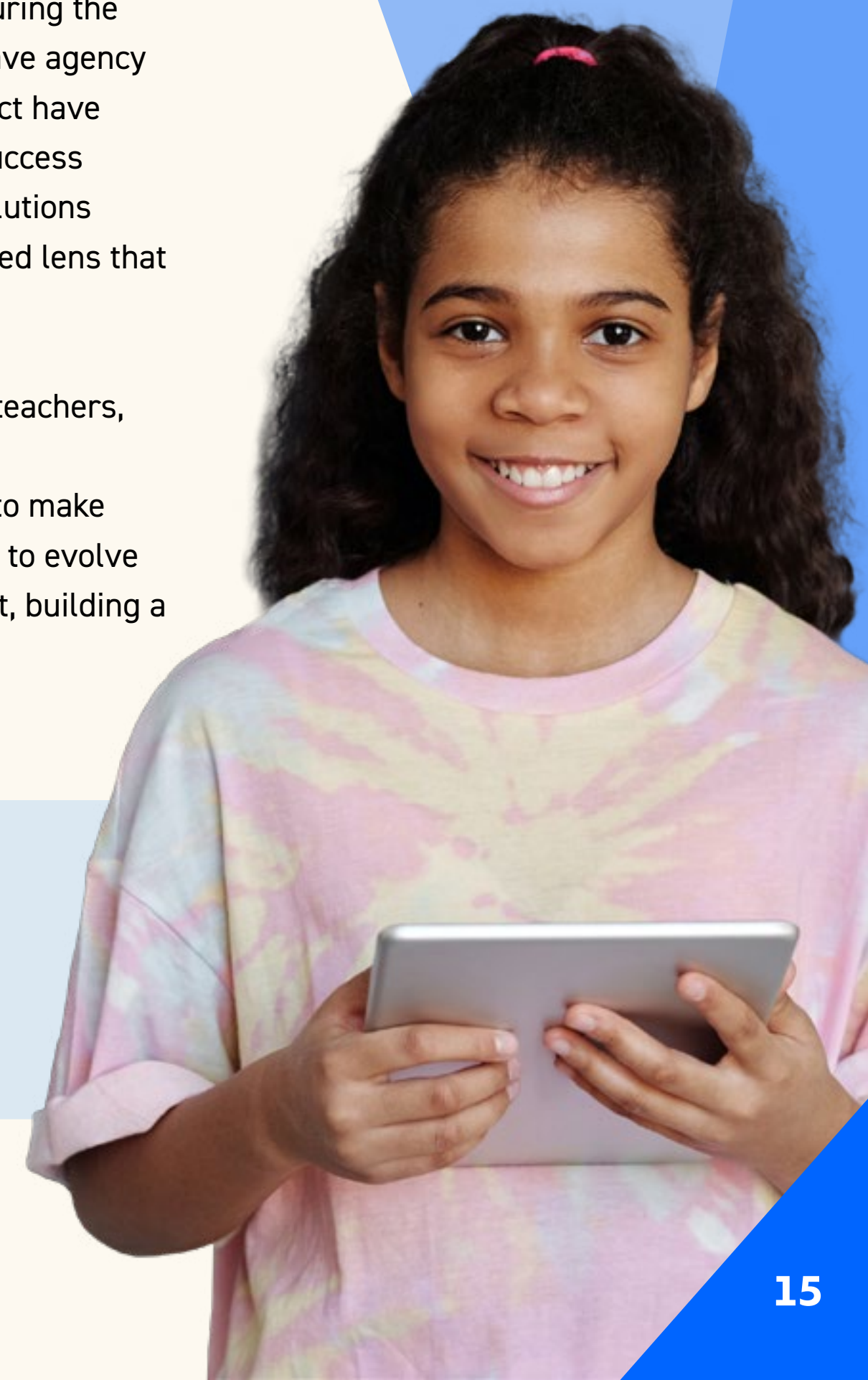
True digital transformation takes more than technology—it requires building capacity, know-how, and infrastructure, as well as shifting to a mindset that views technology not as a panacea, but rather as a powerful enabler that fosters deep integration of relationships between the teacher, learner, content, and family.

—Digital Promise, *Breaking With the Past: Embracing Digital Transformation in Education*

Challenges:

> The challenges of promoting digital equity to build resilient learning systems — availability, affordability, and adoption — disproportionately affect historically and systematically excluded demographic groups, particularly people of color and rural residents.

Learners and educators of color continue to be excluded from digital equity. Teachers of color are underrepresented at work and face challenges like racism and implicit bias, which have negative effects on their ability to thrive in their teaching careers.[20] In turn, this excludes people of color from staying in the industry and weakens the representation of teachers of color to shape the sector for future generations. Existing data on learning continues to cater towards those with the most resources and the least amount of barriers. Assessment and metrics of learning currently remains siloed as not a holistic representation of a learner's success, with issues like language barriers preventing learners of color from success. My Nguyen, Director of Communications at Digital Promise, speaks to this gap, saying, "Current mainstream forms of assessment don't necessarily account for what will actually lead learners to a life of well-being, agency, and economic mobility." This assessment gap contributes to a system that listens and responds to the needs of tools, rather than centering the diversity of learners and educators in the design of the tools themselves.

Additionally, rural and urban areas have vastly different experiences in accessing digital tools — revealing the geographic disparities in promoting human-centered technology. Rural residents spend less time online and are less likely to own multiple devices than their urban counterparts. Therefore, while adoption rates of broadband internet grows amongst rural residents, 28% of rural residents still remain without home broadband, compared to 21% of suburban households and 23% of urban households.[21] Compound that with the fact that people of color in rural areas are affected more dramatically: Black Americans across rural counties in 10 mostly southern states are nearly twice as likely to report not having home internet access as White Americans in the same region.[22]

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While states will lead efforts to close the Digital Learning Gap, states must engage local communities—specifically rural and urban areas and the most underrepresented populations within them—and ensure they play a large role in planning and implementing the broadband programs of the Infrastructure Investment and Jobs Act.

—Dr. D'Andre Weaver, Chief Digital Equity Officer, Digital Promise, _Delivering on the Promise of Digital Equity_

50%   **100%**

About half of teachers say a lack of training is one of the biggest obstacles to using technology in their teaching.

—**Office of Educational Technology at the U.S. Department of Education,** *Reimagining the Role of Technology in Education*

The system will not be able to uplift each learner without taking into account how particular families are affected. While family engagement has core challenges, like engaging diverse families and sustaining family engagement over time, powerful lifelong learning increases through integration with the family.[23] Like family engagement, training educators on available digital tools contributes to fostering a network of support. In order to build environments that are ready for a digital transformation, educational systems need to upskill their workforce to adapt to new digital tools and incorporate technology into their teaching plans. All educators deserve access to quality professionaldevelopment and credentialing opportunities that can help them promote powerful learning experiences in their classrooms.

Digital tools can integrate an individual learner or educator's needs by gauging social emotional capabilities, cognitive development, and their interests. This integration can customize and personalize learning journeys for individuals in order to promote environments for powerful, lifelong learning. There needs to be an explicit prioritization of inclusion in the co-design and evolution of digital tools for them to be authentically human-centered.

K-12 schools are a key pathway to digital equity and essential to sustaining gains we make over the next few years.

–**Dr. D'Andre Weaver, Chief Digital Equity Officer, Digital Promise**

RECOMMENDATIONS TO PROMOTE HUMAN-CENTERED TECHNOLOGY AND INTEGRATION

Equitable digital transformation in school requires an upheaval of archaic systems and a pointed focus on human-centered technology.

1.

The future of education needs global tools that can be customized locally with teachers, school leaders, families, and learners. Building human-centric learning must start at the community level.

CALL TO ACTION FOR DEVELOPERS:

Co-design tools and assessments with communities and schools and ensure there are feedback loops to continue building tools after implementation. Start the design process by assessing needs at a community-level to promote a learner-centered model. Scale tools globally while allowing for local adaptations and customization to exist, like the work Talladega County implemented to undergo a digital transformation.

2.

The education system can support more learners by uplifting teachers of color. When teachers of color are supported, learners of color can also be supported.

CALL TO ACTION FOR EDUCATORS:

Specifically, ensure teachers of color have access to support and training to grow their digital skills and integrate emerging technologies into their lesson plans. Ensure teachers of color have access to additional resources to support their well-being, like providing support groups and mentorship programs.

3.

A cohesive network of positive support — between family, teacher, and learner — must be culturally responsive, connecting learners' cultures, language, and life experiences to what they learn in school.[24] Empowering learners through storytelling and giving them agency and ownership over their skills will promote a system that further centers learners and their unique experiences.

CALL TO ACTION FOR EDUCATORS AND TEACHERS:

Ask learners, families and educators questions to understand their experiences and more effectively facilitate a human-centered approach to digital learning. Help teachers and leaders recognize their own implicit biases in order to foster inclusive learning environments for all learners and their families. Engage families through direct communication and work to integrate them into the learning experience.

Insight 3:

The social conditions a learner faces are integral to the longevity of learning. To promote equity and powerful learning, technology solutions must respond holistically to learner variability.

In order to promote powerful learning, thinking must expand on where, when, and how learning occurs. Most importantly, educators must better understand the necessary social conditions — including physical health, socioeconomic status, and mental health conditions — needed for learners to thrive. Digital tools will not work effectively if learners' social conditions are working against them. However, powerful learning environments capture the whole learner's context.
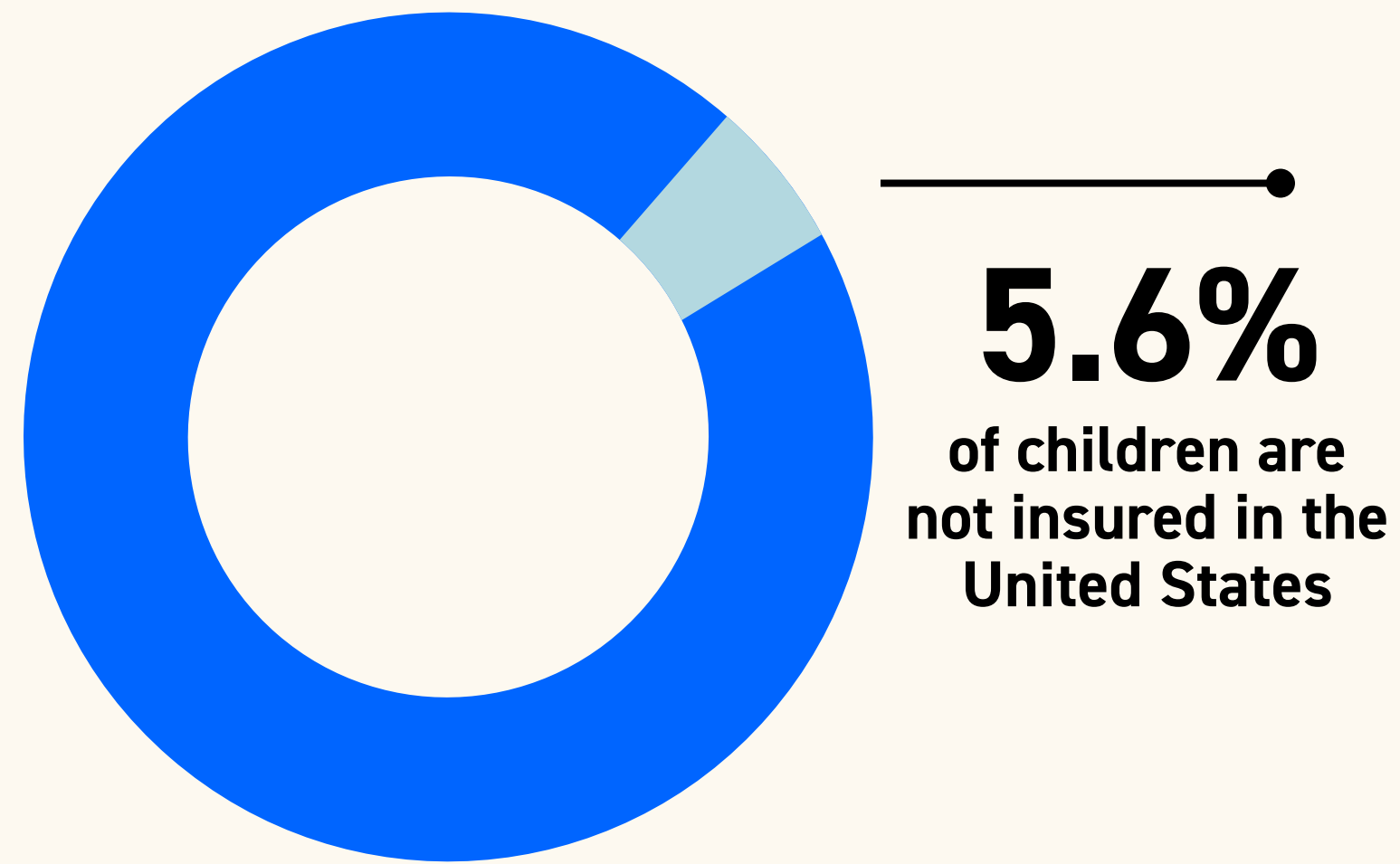
Rarely do leaders, researchers, and educators gain a holistic view of learners. Research trends towards focusing on one social condition, with limited knowledge to the influence of multiple stressors and the intersectionality of these issues. Making progress on addressing social conditions will require some systemic consensus, which will take an investment of time, resources, leadership, political capital, and cross-sector collaboration.

> *Childhood stress and trauma is a public health crisis. As a society, we must recognize that shame and secrecy keep it a hidden problem. Unlike infectious diseases, trauma cannot be sanitized, vaccinated against, or treated with antibiotics. Therefore, to promote well-being across the lifespan, we must collectively invest in meeting the needs of future generations*
>
> **–Shanta R. Dube, School of Public Health, Georgia State University,**
> ***How Childhood Experiences Contribute to the Education-Health Link***

5.6%

of children are
not insured in the
United States

1 in 6

children struggle
with food insecurity

— Lisa N. Bunch and Amogh U. Bandekar, US Census,
Uninsured Rates for Children in Poverty Increased 2018–2020
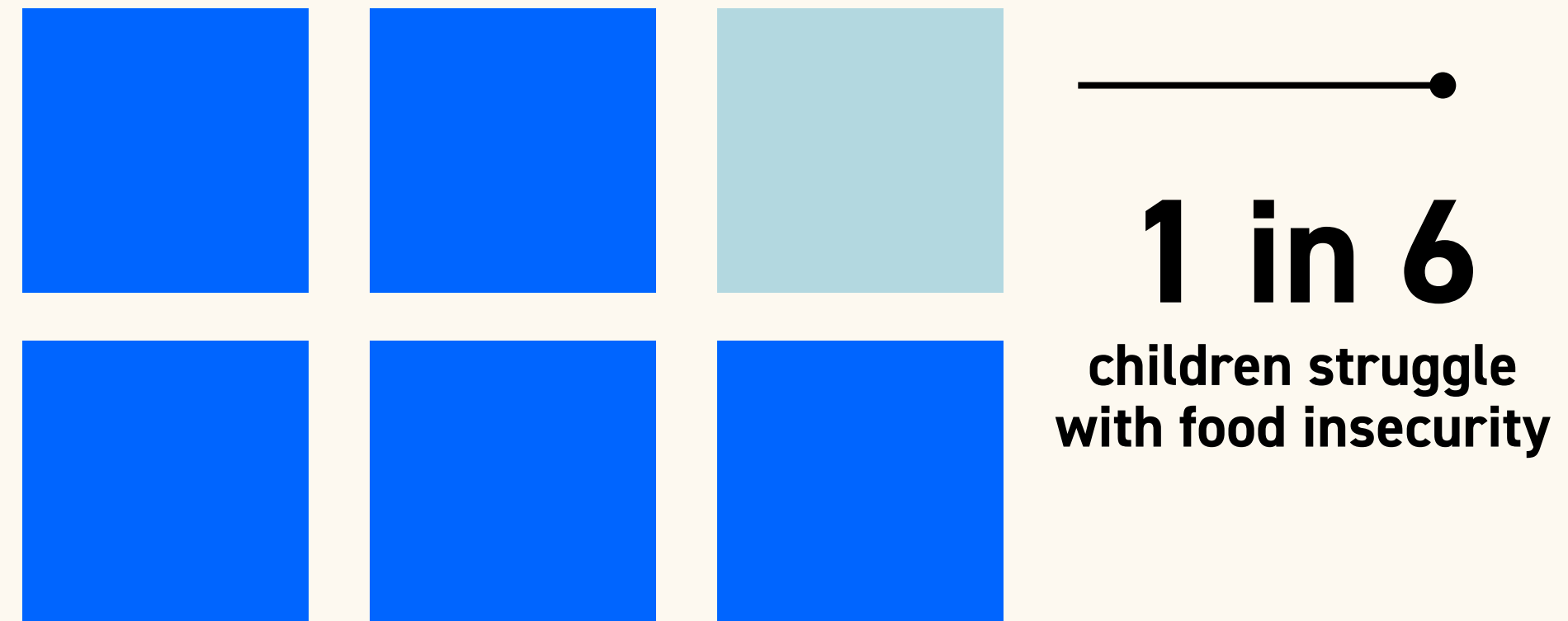
—The Education Trust, *Ending Student Hunger & Homelessness*

Challenges:

Learners' environments and the social conditions they face affect their access to powerful lifelong learning throughout their lives. This, in turn, affects the learner's ability to thrive, with less opportunities to grow their skills and setting them behind in developing digital fluency needed for the future of the workforce.

Socioeconomic factors, especially stable housing, influence a learner's earning potential over time. Children are at a disadvantage when their parents struggle financially. Research shows that parental income and educational levels during their children's early education years significantly impact lifelong learning of the child.[25] Policies must lift up communities with the most to gain in order to break generational poverty and promote learning for all.

Physical health and access to affordable healthcare also affect classroom learning, both lifelong and in the moment. If a learner's physical needs are not met, basic needs will get in the way of powerful learning. 5.6% of children are not insured in the United States and 1 in 6 children struggle with food insecurity.[26, 27] Food insecurity has shown to affect math and reading skills as early as kindergarten.

Learners face a rising mental health crisis in schools that leads to unsupportive and unsafe environments. With the rise in social isolation and loneliness among the youngest generations, schools are seeing a demand for care that extends beyond classroom learning and into psychological support. NationSwell Fellow, Saadhvi Mamidi, spoke to this saying, "Focused, school- upported solutions are needed to address learner mental health, going beyond just hiring a guidance counselor." Additionally, suicide rates suicide rates are on the rise among youth and young adults, and school shootings continue to happen across the country at horrifying rates.[28, 29] Education systems must confront the public health crisis of learner stress.[30] Developing technologies that center young learners and support their mental health at school can normalize the much-needed conversation and reverse long-standing histories from the education system to ignore these issues.

Social conditions and learning environments are not mutually exclusive — failing to address the social conditions of individuals negatively impacts everyone in the learning ecosystem. Learners rely on educators, communities, and leaders to incorporate, acknowledge, and help them face social influences in their lives. Looking forward, digital advances can play a role in addressing social inequities by considering a learner's entire context.

RECOMMENDATIONS TO CREATE HOLISTIC DIGITAL TOOLS AND EXPERIENCES

For powerful learning to occur, education systems need to approach emerging technologies with a holistic lens to consider the social conditions that might be hindering the learning experience.

1.

Education systems must advocate for holistic support for their learners to address the realities of learners' needs for the well-being of future generations.

CALL TO ACTION FOR PHILANTHROPISTS AND POLICYMAKERS:

Invest in technology that accounts for all social conditions learners face. Digital tools that can support families, educators, and learners to find and receive social support have the potential to reshape learning experiences.

2.

Personalization in digital tools begins with centering both the student and the teacher, which will in turn scale uptake in usage.

CALL TO ACTION FOR EDUCATION SYSTEMS AND LEADERS:

Promote the narrative, steeped in research, that teaching experiences designed for the whole learner best prepare students for success in school and society.[31] Teaching the whole learner opens the doors to equitable and inclusive school systems, which paves the way for creating a sense of belonging. Leverage digital tools — like Digital Promise's free Learner Variability Navigator — to help teachers implement strategies to ensure their learners are in an environment where they might thrive.

III.
Digital Equity and
the Future of Work

Introduction

Earners and employers alike recognize that for the rapidly changing workforce to remain competitive and keep up with technological advances, there needs to be an overhaul of our current learning systems.

Research shows a strong correlation between digital skills and earning potential, which underscores the importance of skilling learners with tangible credentials to increase the financial well-being of all people.[32] However, earners currently lack ownership and agency over their skills and credentials, making marketing their skills and finding opportunities that align with their interests a challenge. Earners need a place to verify and market whichever skills they choose in order to break into roles that have previously prioritized those with a four-year college degree. This warrants a cultural narrative shift from prioritizing certificates, degrees, and diplomas to valuing the skills that micro-credentials can provide. This shift creates an inclusive system of hiring that takes into account the whole person and their potential.

Employers are struggling to find, retain, and upskill top talent to keep up with the evolving needs of their businesses, and education systems fail to keep up with teaching relevant new skills to learners. In fact, 72% of social impact professionals believe private and public

companies should influence post-secondary institutions' curriculums and the development of skill training for earners.[33] The belief that companies should influence education penetrates the minds of hiring managers who carry a bias for four-year degrees, while many micro-credentials might prepare earners in a more targeted way. At the same time, companies are seeking ways to diversify their talent pools and find top talent for new and existing roles.

Innovative solutions are emerging to include employers in the skilling process. For example, Bioscience Core Skills Institute (BCSI) leads the way in the bioscience sector to support learners, identifying the most in-demand skills from employers and educating the workforce on those skills. By providing practical workforce skills assessments and trusted digital micro-credentialing, BCSI builds a bridge between employers and earners. They not only administer credentials to those who pass through BCSI, but they showcase their skills and ultimately deliver quality and skilled employees to industry partners.

Society has traditionally merited knowledge gained from degrees, diplomas, and certificates. However, these value systems have deep-seeded biases that negatively impact particular communities' ability to gain

access to economic and social opportunities. The rise of digital solutions brings an opportunity to transform society's understanding of learning to one that honors an individual's lifetime learning journey and promotes powerful learning as the key to unlocking more accessible and inclusive solutions to skilling workplace opportunities.

The following section outlines three insights that were conceived from the Digital Promise and NationSwell events related to an equitable digital transformation in the workplace.

> "
> *The large-scale transformation needed [to shift to holistically preparing young people for lifelong economic security and well-being] requires a model that prioritizes important powerful learning skills in today's global economy.*
>
> **—Jean-Claude Brizard, Michael A. Campbell, and Cigdem Ertem,** *How Schools Can Prepare Students for a 21st Century World*

Insight 4:

Digital tools have the potential to widen talent pools for employers and create opportunities for learners and earners. However, without prioritizing equitable design, historically and systematically excluded communities will, yet again, be left behind.

Digital credentials are on the rise, which opens pathways for more learners and earners to gain recognition for their marketable skills and for employers to tap into new pools of talent that might have otherwise been excluded. Leaders must explicitly call for practices that uplift all learners and earners in the development of digital credentialing, thus promoting the uptake of digital credentialing and transitioning the minds of employers to value these skills.

As micro-credentials gain traction, they provide learners with an affordable option to gain recognition for skills versus expensive institutional recognition that typically takes much more time to earn. Yet, not all credentials are created equal. Setting standards combats an oversaturation of credentialing agencies and adds to the validity of credentialing as a practice. Advocates call for competency-based, research-backed, personalized, and on-demand micro-credentials.[34] The market of digital credentials — ranging from emerging to more established — was valued at $6.5 billion in 2020 and is expected to reach $17 billion by 2028.[35] Fortunately, credentials are expected to decrease in cost for consumers over the next few years, providing pathways to economic mobility for more people.

Leaders in the philanthropic sector recognize this shift and have begun to respond. For example, Google.org — the philanthropic arm of Google — invested $14 million in Goodwill Digital Career Accelerator to equip a million people with digital skills training in three years.[36] The program targets people of color, those without four-year degrees, and those from rural areas to offer entry into fulfilling careers with competitive wages. Investments like this will open opportunities for these earners to participate in booming industries and take advantage of all that digital skills have to offer in the evolving economy. The workplace must respond.
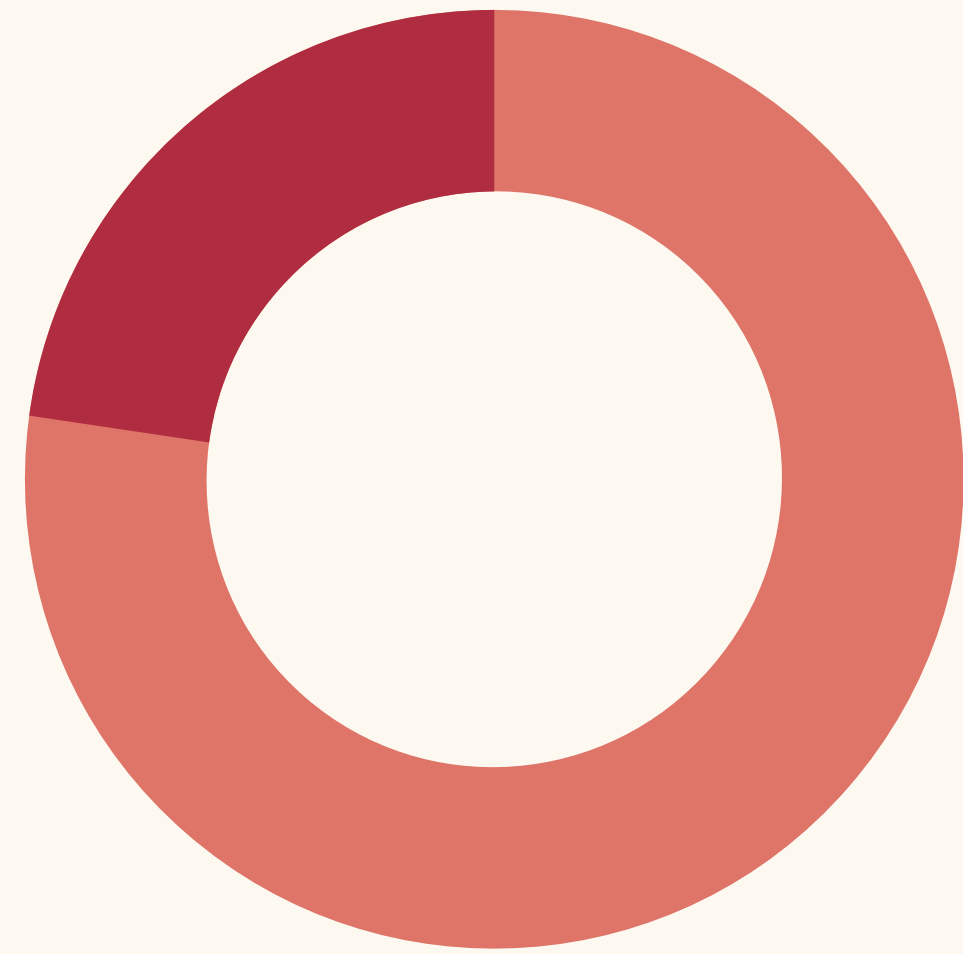
77% of social impact professionals surveyed in 2022 agreed that employers should provide targeted training to all employees.
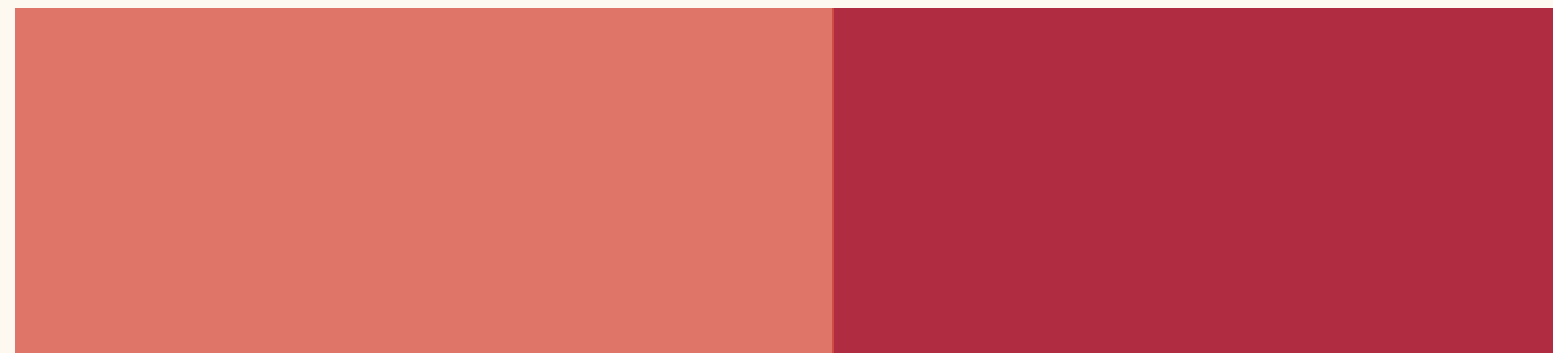
53% of these social impact professionals believe employers should provide low or no-cost access to formal education to all employees.

—NationSwell and Lydia Loizides, Talentedly, *Social Impact Professionals' Views on the Changing Talent Pipeline*

Employers need to seize this opportunity to implement more equitable hiring practices and advancement opportunities, while recognizing the value of and embracing talent with micro-credentials. 77% of social impact professionals surveyed in 2022 agreed that employers should provide targeted training to all employees, and 53% believe employers should provide low or no-cost access to formal education to all employees.[37] To stay competitive, employers must consider opportunities for the skilling of potential talent and current employees.

To stay competitive, employers must consider opportunities for the skilling of potential talent and current employees. Open Skills Network is a coalition of employers, education providers, policy makers, military, nonprofits, and others dedicated to advancing skills-based education and hiring. The Open Skills Network envisions a world where learners and earners are empowered to use their skills as currency - with the ability to understand the value of their achievements - within the employment and education marketplace. They promote the answer of a more equitable, skills-driven labor market that matches learners and earners with skills-based education and career opportunities to the benefit of the individual, employer, and economy at large. Their work enables earners and learners to move between education and work more rapidly and seamlessly along skills-based pathways. It also reduces historical inequities in hiring as more people are hired for what they can do. Individuals are empowered to understand and communicate the value of their own skills and talent, and employers see that talent and make informed, skills-based hiring decisions for the benefit of all. Shifting from short-term job training to skilling opportunities strengthens earners' abilities to evolve with technological advancements and better positions them to navigate this rapidly shifting landscape in the future of work.

Challenges:

Across the events hosted by Digital Promise and NationSwell, attendees — including nonprofit professionals focused on digital equity, advocates for workers rights, philanthropists, employers, and policymakers — expressed a lack of research proving skills-based hiring as a solution for promoting equity, calling for additional pilot programs to be researched to prove reliability. As a worst case, these leaders worry that skills-based hiring could create a bifurcated system, further exacerbating inequities if hiring managers and employers carry biases against micro-credentials.

Without a cultural shift, skills-based systems could risk further segregating and reinforcing biases, creating a system in which those with micro-credentials would be looked down upon in the workplace. This fear of creating a bifurcated pathway could determine wages, resulting in those with micro-credentials getting paid lower rates than those with degrees or diplomas for the same jobs. This calls for a need for a diverse, representative governing body to set standards to build trust in uptake of skills-based hiring.

A digital credentialing system, if not designed equitably, could further exacerbate the gender wage gap as well.

Women of color make up less than 5% of employees in the technology sector, which is a dramatic under-representation. On top of that, the gender pay gap is a real problem for women in the industry. A pressing question for me is, 'How can we create more equitable conditions for women of color to succeed in tech?' Along with that, 'How can we put more of a premium on skills and certifications so more people can access great career opportunities?

—Bertina Ceccarelli, CEO, NPower

Risks extend to those in rural communities who may be excluded if a digital credentialing system fails to prioritize inclusive innovation. As noted in Insight 2, a lack of access to affordable broadband and devices remains a persistent challenge for rural areas, which affects the ability of individuals to participate in the creation of a digital credentialing system. In an effort to promote adoption of digital tools with rural adults, Verizon partnered with 4-H — an organization that empowers millions of young people with lifelong skills and opportunities — to create the 4-H Tech Changemakers program.[38] This program proves to be a unique, community-centered initiative that credentials young people in rural areas to provide digital literacy training to older adults in their communities. The program reached 20,000 adults from 2021-2022, 55% of whom identify as Black, Indigenous, People of Color (BIPOC). The innovative model has many benefits: older adults build vital digital skills, the young people build technical and leadership skills, and communities become stronger by unleashing economic potential and building intergenerational relationships. Tech Changemakers successfully showcases an example of centering the solution in the community.

Though not mutually exclusive, both women and earners in rural communities could benefit from the development of digital tools and break through long-standing inequities by leveraging technology for economic development. It is up to leaders in the digital transformation movement to regularly engage with these communities to ensure their voices are heard at every stage of development and design of solutions.

RECOMMENDATIONS TO CREATE OPPORTUNITIES FOR ALL LEARNERS AND EARNERS

In order to promote inclusivity in emerging digital tools for workforce development, innovators must co-design with those that are most impacted. Community-centered design is essential for success.

1. **Scaling skills-based systems requires additional trust from the public and between educators and employers. Research on pilot programs can demonstrate how skills-based systems will generate more equitable pathways, guarantee that credentials are verified and high-quality, and confront systemic racism.**

CALL TO ACTION FOR EDUCATORS AND EMPLOYERS:
Build talent pipelines in collaboration with one another and local communities to better understand the needed skills and infrastructure to overcome the digital divide. Building multiple pathways to overcome the digital divide and avoiding "brain drain" requires collaboration with local communities to fully comprehend skills and infrastructure gaps. Designing and building in collaboration with users who have the most to gain from digital equity can develop trust in a skills-based system.

2. **Digital transformation is a non-partisan issue that garners support across political divides, and states are proving themselves to be pioneers, sitting at the forefront of innovation as they test and pilot skills-based hiring.**

CALL TO ACTION FOR POLICYMAKERS AND RESEARCHERS:
Encourage governors to remove education requirements from public sector jobs, and conduct research on the states who have implemented skills-based hiring to help the public understand the benefits of such a novel system, and cultivate trust in it.

3. **Put the community first and design digital tools with learners at the forefront.**

CALL TO ACTION FOR EDUCATORS:
Learning from innovative models like 4-H Tech Changemakers, build community solutions that uplift ideas from learners and earners who are historically and systematically excluded from the digital transformation. Appreciate and trust that communities know what they need most, and make way for them to be the experts on building practical solutions.

Insight 5:

A trusted and verifiable digital system that can accurately identify the skills needed for a job can enable learners and earners to reflect those skills back to employers by customizing what information they give. This alters hiring and education systems to be centered on the needs, experiences, and agency of the earner and learner.

To promote skills-based hiring, there is a missing digital tool: a verifiable, standard record of skills and experiences that learners and earners control. This system has the potential to promote equitable digital transformation for its ability to create opportunities for learners and earners to find relevant opportunities while giving them agency and ownership over the marketing and development of their skills. While this technology exists as just a tool, it can provide the means towards a revolutionary switch to centering learners and earners in the hiring process.

Some believe a trusted, verifiable digital system to store and access this data will prove as the best route to get to this shift. Interoperable systems are the seamless, secure and controlled exchange of data between applications.[39] Interoperability will allow for credentials to be certified for employers and owned and managed by individuals.

Leaders expressed a growing demand for a digital system that can accurately capture, market, and verify the credentials of the workforce. It can be tempting to focus on hard skills in a time of rapid digital innovation, yet soft skills — like creativity, teamwork, problem-solving, leadership, and communication — can be developed and marketed in the digital records. This is particularly true for those learners and earners who are typically overlooked in hiring processes, unlocking access to hidden talent that has relevant transferable skills. For example, those with a criminal justice history might have valuable but unrecognized skills. The development of a more equitable digital system could mitigate these inequities and overhaul a deeply ingrained system of bias.

Leaders in the digital transformation space call for the development of a Learning and Employment Record (LER). This record could prove to be beneficial for both earners and employers.

For earners, LERs give them agency, control, and ownership over their career journeys. They have the opportunity to customize which of their credentials and experiences are presented to employers, enabling them to effectively market their skills, find opportunities that align with their experiences, and identify gaps for upskilling. LERs highlight the gained skills and competencies individuals have instead of prioritizing degree-based accomplishments. This switch — from exclusively valuing degrees to valuing skills and competencies — uplifts earners and provides pathways into life-sustaining careers that may have not been accessible in the past.

For employers, LERs create a verifiable system so hiring managers can efficiently find top talent and trust that candidates are equipped for the position. The focus on competency-based and skills-based hiring opens opportunities for employers to tap into hidden talent. LERs hold promise and have the potential to unlock a new way of hiring — one that fills roles with those best-suited and most-interested in the work. And yet, while the prospect of LERs points toward equitable digital transformation, a few challenges arise that leaders must be cognizant of in order to promote a truly inclusive system.

> "
> *You need a complete set of data in order to gain visibility and develop an accurate story. However, your data on its own may not allow you to understand how practices and policies create inequitable conditions. Data equity applies an equity centered lens and mindset to ensure that data is collected, analyzed, interpreted, and shared with diverse stakeholders without bias or exclusion. To center equity, we need to consider who is involved when collecting, working with, and making decisions based on data.*

—Digital Promise, *Data Ready Playbook*

"

In the not-so-distant future, we can create a labor market where employers value the potential of people who may not hold four-year college degrees, but possess skills companies desperately need. In this future, people would get a fair shot at a fulfilling job, a rewarding career, and a better life for themselves and their families.

—Opportunity@Work, *Future of Work*

Challenges:

As with any emerging technology, there are challenges in developing an equitable Learning and Employment Record. In the events hosted by Digital Promise and NationSwell, participating leaders expressed a lack of trust among cross-sector leaders in the LER system.

Further, without a scaled LER, little research and proof exists on the benefits. The ecosystem needs more access to longitudinal data showing evidence that LERs lead to access, jobs, and overall equity. Researchers and designers must work together and alongside earners and learners to iterate on pilots and begin to showcase the multitude of opportunities this system creates.

Implementation carries its own challenges. Once a standard system exists, scaling it to people and employers presents a challenge as access to affordable digital tools and training remains a barrier – as described in Insight 1. For example, small and medium-sized enterprises (SMEs) play an essential role in economic revitalization on local levels and have the potential to feed into a virtuous cycle that builds towards an equitable and digital ready workforce. However, many face barriers to digitization, as well as the resources to upskill local talent. SMEs employ almost half of the workforce in the United States and from 2000-2019, they created 10.5 million new jobs compared to 5.6 million new jobs from large businesses.[40, 41] Small businesses are ripe for process changes and technological advancements and they need to have access to digital tools for an LER to make a difference at scale.

RECOMMENDATIONS TO CREATING A TRUSTED AND VERIFIABLE DIGITAL SYSTEM

Designers should build Learning and Employment Records with and for users — learners, earners, educators, and employers — to address challenges and nourish a system that will uplift all people and bring opportunities for economic mobility.

1.

Digital systems must center earners and learners in the design, evolution, and implementation in order to scale.

CALL TO ACTION FOR DEVELOPERS AND RESEARCHERS:

Take a human-centered approach to developing and iterating LERs. Elevate the voices of those who can benefit most from the development of this technology, provide them early access to become the initial adopters and advocates of LERs, and include them in each step of the process, taking their feedback seriously. Be completely transparent about how others access the data and confirm users are aware of both the strengths and risks of using these digital tools.

2.

Educational institutions and employers must remain flexible in adopting LERs and trust the early evidence that shows how these systems can benefit learners and earners.

CALL TO ACTION FOR EDUCATORS AND EMPLOYERS:

Embrace another system of credentialing and hiring, understanding the benefits could massively shape the sustainability of learning systems and expedite the hiring process to find top, qualified candidates.

3.

Small businesses hire the majority of the labor market in the United States, and therefore have the potential to unlock an equitable digital transformation.

CALL TO ACTION FOR SMALL BUSINESS OWNERS AND LEADERS:

Partner with large businesses to reimagine a more equitable path towards hiring by implementing a skills-based system that values micro-credentials and sources talent from LERs. Once developed, small businesses have the flexibility to quickly implement new processes, serving pilot testers that can be on the forefront of understanding the nuances of how LERs can benefit business and people.

Insight 6:

The United States needs a cultural narrative shift to promote multiple pathways for learning and skilling. Despite industry efforts to shift to more equitable practices, biases continue to dominate hiring decisions and emphasize diplomas or degrees over skills-based learning.

The mindsets of the general public in the United States must shift to build a successful system that supports multiple pathways and the implementation of a skills-based economy. Those making hiring decisions can normalize and embrace multiple pathways of learning, like associate's degrees, micro-credentials, and stackable skills.
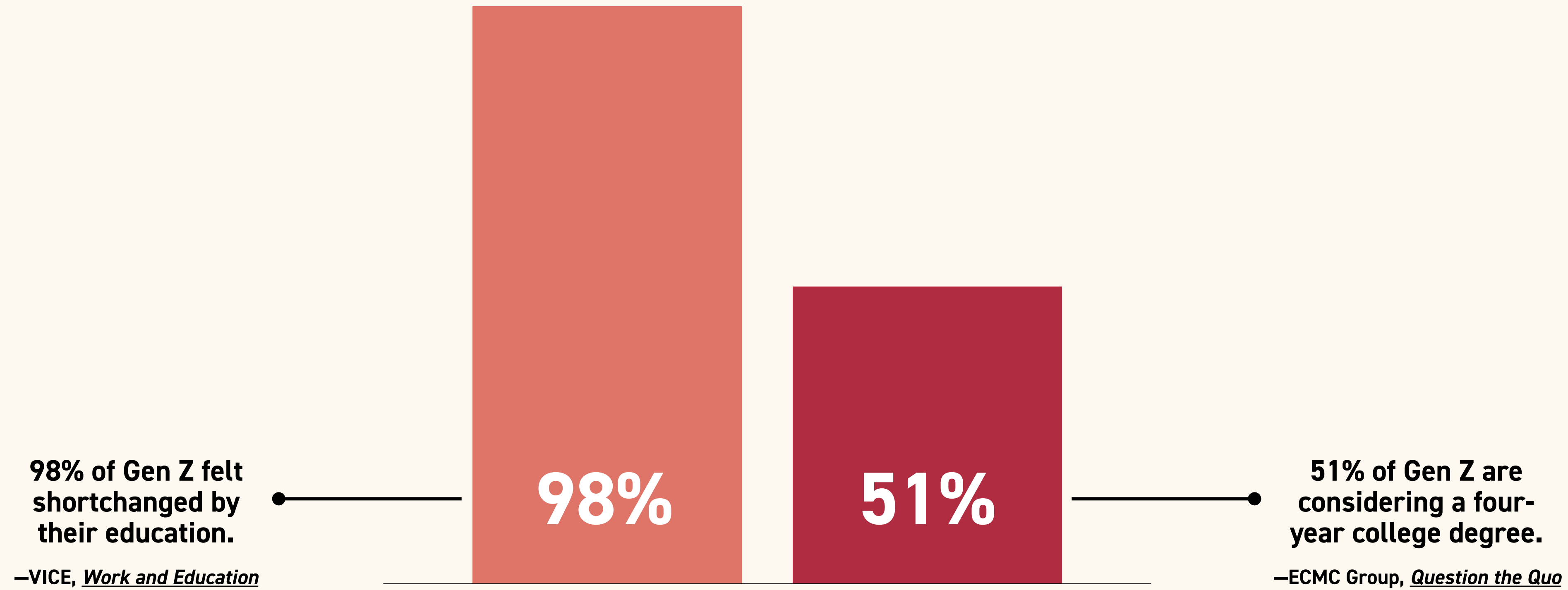
To move the needle on supporting a skills-based workforce, it is time for the nation to uplift and support learners and earners with a variety of backgrounds and experiences. The cultural narrative must emphasize how an individual's unique skills and interests can shape their career versus a narrative that says all roles require burdensome degree barriers. The former allows for learners to imagine lifelong learning opportunities that prepare them for an evolving workplace.

Gen Z's influence on learning and workforce development will impact the future of work. In 2025, Gen Z — the most diverse generation on Earth — will make up 27% of the workforce.[42] Companies who want to embrace all that this predominantly digital native generation can bring need to sit on the cutting edge of skills development and hiring. Roughly 62% of adults in the United States do not pursue a four-year college degree, showing the majority of learners do not follow the path after high school graduation towards a four-year college degree, which will likely increase as Gen Z gets older.[43] 98% of Gen Z felt shortchanged by their education and only 51% are considering a four-year college degree.[44, 45] As talent changes their priorities, companies must respond.

Employers who are searching for hidden talent can reprioritize their hiring practices and values, expanding the idea of what pathways employees might take to become qualified for a role. 81% of employers acknowledge that they should be hiring based on skills over degree requirements.[46] This belief must dominate hiring decisions, job creation, and the promotion of employees internally. As more learning opportunities emerge, employers need to embrace these pathways to tap into a hidden talent market.

College degree programs and skilling can complement one another and lead to an expansion of learning opportunities for earners. With additional options for becoming job-ready, earners can look to emerging practices outside of micro-credentials or degrees. For example, hiring managers are beginning to consider the strong value of on-the-job experiences. This has led to the emergence of increased apprenticeship opportunities. Apprenticeships can be sector-specific, like Onramp for tech and data, or demographically focused, like Apprenticeship and Non-traditional Employment for Women, which advances women in career pathways where women are underrepresented.

The key to ensuring an equitable approach to hiring starts with a mindset that values the experiences and skills of others, regardless of how they are obtained.

98% of Gen Z felt shortchanged by their education.

—VICE, *Work and Education*

98%

51%

51% of Gen Z are considering a four-year college degree.

—ECMC Group, *Question the Quo*

Challenges:

Current cultural narratives and job descriptions continue to value degrees, diplomas, or certificates. These values are seeded in knowledge gaps, misconceptions, and historical stereotypes. Digital tools like Learning and Employment Records are not understood widely, and the benefits are still unclear to many without proof of concept. Many also assume that providing access to tools, like broadband internet, will serve as the silver bullet, yet this leaves out the importance of affordability and digital fluency to utilize those tools. And the United States continues to perpetrate institutions of individualism, presuming everyone can unlock economic mobility.

In a survey of social and environmental impact professionals, a report found that 38.3% of respondents did not believe their employer valued non-college credentials as much as a four-year college degree.[47] Authentic implementation will require incentivizing uptake in skills-based learning and hiring. These processes can confront systemic racism that infiltrate hiring and widen income gaps. Digital tools provide employers the opportunity to build equitable pathways if they can fully commit to building trust in these systems.

38.3% of respondents did not believe their employer valued non-college credentials as much as a four-year college degree.

63% say that the current educational and job training ecosystem is not appropriately preparing learners for stable, long-term careers and the knowledge they will need to succeed.

—NationSwell and Lydia Loizides, Talentedly, *Social Impact Professionals' Views on the Changing Talent Pipeline*

> *We observe a race to launch AI tools at scale before agreeing on what problems people want to solve, what values educators must protect, and what goals educational systems should be designed to achieve. Shared vision, values, and goals arise from people working together.*

—Digital Promise, *Artificial Intelligence in Education*

Trust is a major challenge for employers and earners in implementation. Shifting current processes and mentalities will require building trust that digital credentials can work to match verifiable skilled talent to the roles in which they are best suited. Earners must gain trust that digital tools will center their experiences, giving them agency and ownership over their data. And also, trust between employers, credentialing agencies, and earners remains low. Employers want to trust that credentialing agencies are providing high-quality skills, earners want to trust that their skills are recognized by employers, and credentialing agencies want to ensure employers will recognize the value they provide in their programming when hiring for life-sustaining careers. Further research needs to support an inclusive digital credentialing system that will promote trust and ease the minds of critics to a new digital system.

To earn trust, the learning system has to evolve with technology. Given that 85% of social impact professionals believe automation is poised to be one of the top forces impacting the future of work, it is not surprising that 63% also say that the current educational and job training ecosystem is not appropriately preparing learners for stable, long-term careers and the knowledge they will need to succeed.[48]

These challenges — of deep-seated societal values, practical implementation, trust in the system, and evolving learning systems — prevent narrative change and scaled digital transformation. To change the narrative, leaders must take tangible steps towards valuing a skills-based system.
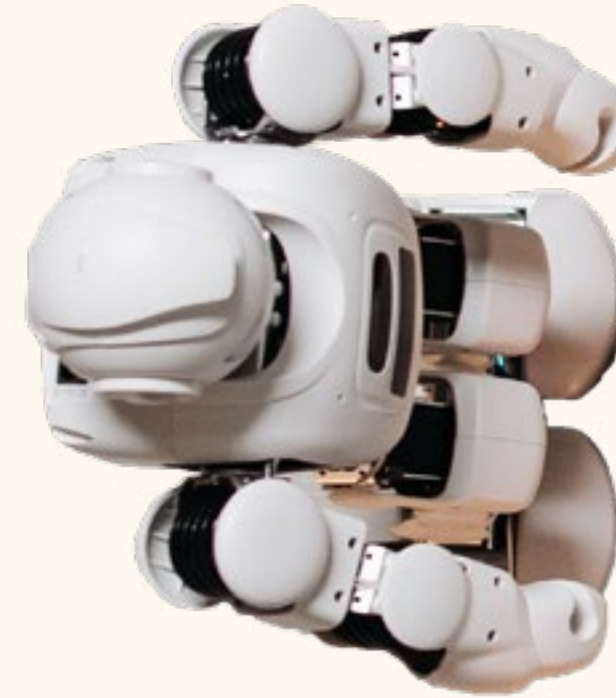
RECOMMENDATIONS TO CHANGE THE NARRATIVE

Changing the narrative in society can feel daunting, but there are practical ways to leverage a new narrative that leaders can promote. Leaders promoting the advancement of an equitable digital transformation must focus on supporting and valuing a skills-based economy.

1. **People can change the value of skills in society by recognizing hidden skill sets, validating learners with micro-credentials, and debunking stereotypes when they arise.**

CALL TO ACTION FOR THE PUBLIC:
Encourage skills-based narratives by using language that esteems micro-credentials and includes these learners in cultural narratives. Digital Promise uses terms like 'learners' instead of 'students' to reinforce the idea that learning happens beyond classrooms and extends throughout one's life. In addition, they endorse terminology like 'multiple pathways' instead of 'alternative pathways' to avoid creating a bifurcated system.

2. **System-wide trust-building establishes alignment, standards, and common goals. Once the country has a crystallized narrative, communities can more easily support skills-based practices, digital credentialing, and digital record management. Cross-sector partnerships are needed for more equitable and inclusive work.**

CALL TO ACTION FOR COMMUNITY LEADERS, EDUCATORS, PHILANTHROPISTS AND EMPLOYERS:
Create opportunities for partnership — like coalitions, value networks, and knowledge sharing — to advance innovation together. Set the table for inclusive innovation by bringing together leaders across sectors, including learners and earners themselves, to design, implement, and scale digital transformation.

IV.
Conclusion: Equitable Digital Transformation: The Future of Learning and Earning

Conclusion

Learning and earning are more integrated with technology than ever before. As time progresses, this integration will only continue to advance and become more prominent. This presents an opportunity to scale a much-needed digital transformation in order to prepare the country for whatever the future brings.

Promoting digital transformation not only builds opportunities for more people, it also boosts social inclusion for everyone. With the country more divided than ever before — and with studies naming Gen Z as the loneliest generation — scaling access to affordable digital tools can help to build connection opportunities.[49] There are a myriad of digital tools that foster community and social connection, highlighting the importance of digital inclusion for those who are experiencing social isolation. As the infrastructure of the country becomes more digitized, digital transformation will include access to basic social services like taxes, social security, email, financial aid forms, telehealth, and more. Equitable access to tools will allow everyone to participate in society and take advantage of public services that were created for everyone.

Proactive collaboration can harness and build upon the momentum created for digital equity work that's being done and enable us to scale and sustain it in new ways.

> *According to <u>research</u> by the National Skills Coalition, nearly one in three workers in the United States have few or no digital skills, and at least 38% of those workers are employed in jobs that require moderate or advanced computer usage.*
>
> **—National Governors Association, _Lessons Learned in Workforce Innovation_**

Insight 7:

Learning and earning will drastically transform as technology rapidly advances. Those most impacted by the digital divide have the deepest knowledge of potential solutions for propelling equitable digital transformation forward. Leaders must co-design solutions with those closest to the problem to be the most impactful.

Those most impacted by the digital divide have the deepest knowledge and most nuanced understanding of their community's needs, challenges, and promising solutions. Leaders must work alongside those who can benefit most from a newly imagined education system and workforce to propel equitable digital transformation into the future of work and education.

Centering the needs of historically and systematically excluded communities in building an equitable digital future showcases a system of strength: though these communities may not have all of the resources necessary for digital equity, they are closer to the solutions to these complex challenges. Some philanthropic organizations are looking to the leadership of those closest to the problem because they acknowledge that they are also closest to solutions. For example, at Google.org, efforts for digital upskilling, workforce development, and education all happen alongside BIPOC communities and BIPOC-led organizations that serve them and are reflective of their constituencies. Breakthroughs from the space will come when following the lead of the communities these tools are trying to serve.

Unfortunately, the status quo relies on majority groups to design and create solutions. The process of amplifying the voices of those who have previously been excluded has the power to enhance trust, elevate new leaders, and promote respect for the value that these communities have. Community-centered and -led design allows individuals the opportunity to thrive by listening deeply to their experiences, following through on their ideas, and fueling the flame on the solutions that they see are working.

Pockets of equitable digital transformation have been emerging across the United States, and these localized efforts will ultimately inform a scaled approach. Local leaders can lift their voices to create a shared vision for digital transformation that can change the national landscape.

Scaling an equitable digital system will not be easy and will not be solved by one sector or policy. An equitable digital transformation requires the collaboration of the masses while centering learners to promote inclusivity and just policies. Then, digital transformation might finally be the rule and not the exception across the globe.

> A key part of the equation is the acknowledgement that those most proximate to the problem are also most proximate to the solutions. Google.org sees centering organizations that are not only BIPOC-serving but also BIPOC-led as a critical component of all digital skilling, workforce development, computer science education, and outreach work. By supporting organizations whose teams are reflective of the constituents that they are trying to reach is part of the formula for breakthroughs in this space.
>
> —Hector Mujica, Head of Economic Opportunity, Americas, Google.org

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Digital Promise has witnessed that change efforts in historically underrepresented communities work best and have a far better chance of taking hold if members of those communities take ownership of solutions through a process of co-creation and design.

—Dr. D'Andre Weaver, Digital Promise, _Delivering on the Promise of Digital Equity_

THE FUTURE OF THE EDUCATION SYSTEM

Digital tools go beyond teaching new skills — they also open new doors for learning pathways. When leaders think about the importance of learning digital tools, they might first envision a focus on the tools people might need to succeed in a given role in their future career. However, digital tools are not just new skills to teach learners so that they use them for learning — they are also keys that open doors to vast worlds outside of their everyday experience, sparking new passions and new drives. By 2030, 68% of Gen Z believe that online videos and articles will be one of the most common ways people will learn new skills.[50] The power of ubiquitous learning brings education and exposure outside of the four walls of schools — and, in doing so, asserts itself as an invaluable component of why digital equity matters.

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During my son's breaks from remote learning, he would watch TikTok videos and learn about aviation. For months, my husband and I didn't realize what he was doing until he started sharing with us his newfound and growing love of all aspects of aviation. Now he is flying single engine Cessna planes. This story demonstrates how digital transformation can advance the way in which we learn and also how we can introduce people to new tools, technologies, careers, and new opportunities – all the while giving them agency to explore anything that intrigues them as a potential career pathway.

—Kristina Francis, Executive Director, Jobs for the Future, JFFLabs

THE FUTURE OF THE WORKFORCE

The 2022 Global Digital Skills Index names collaboration technology, digital administrative, and encryption and cybersecurity as the top three workplace digital skills globally. An inclusively designed digital transformation will skill more earners, better prepare them for in-demand roles, and propel them into careers that allow for economic mobility. And this transformation extends beyond the workplace to boost a sense of belonging and social equity for all, allowing more people to participate in society and take advantage of all that technology has to offer.

Research shows that 1.1 billion jobs will be radically transformed by technology within the next decade, which means tomorrow's workforce, who are today's young learners, will need new skills to be prepared to keep up with the requirements of in-demand careers. That underscores the urgency of a digital transformation: If an earner is to be competitive in the digital economy of tomorrow's workplace, it is imperative that their education finds a way to center the digital skill sets that provide them comfort and ease in the rapidly evolving demands of that workforce.

"

When we're talking to systems leaders, we need to be clear that digital transformation has arrived. So many of us are letting the transformation happen organically without impactful coordination. We need to be active crewmembers of change, not just passengers who are sitting back and watching it unfold.

—Jean-Claude Brizard, President and CEO, Digital Promise

RECOMMENDATIONS TO CO-DESIGN WITH THOSE CLOSEST TO THE PROBLEM

When it comes to learning and education, context matters. When prioritizing approaches to building an equitable digital transformation, always remember what the strategy actually means within the context of a learner's life. For any given learner, these technological unlocks and possibilities are not only there to improve present learning — they are there to provide a foundation to help them succeed, boost their well-being, and allow them opportunities to thrive.

1.

Inclusivity empowers learners to be at the center of digital transformation. Sustainable, long-lasting systems will work when they support personalized learning for all.

CALL TO ACTION FOR THE EDUCATION SECTOR:

Remember when teaching a learner a new tool, a new technology, or a new facet of education to also teach them about its implementation — where they might use the tool in future and how it might come up in their everyday life as they compete in a multigenerational workplace. This will empower them to connect their learning to their future successes. In addition, allow learners to customize their experiences digitally, as these tools have the potential to improve their well-being and cultivate an environment in which they can thrive.

2.

A digital transformation is on the precipice of scaling across the globe, and leaders have an opportunity to shape that transformation. A massive overhaul of the hiring and skilling systems will happen, and leaders in the workforce will determine whether those most impacted will inform that overhaul or not.

CALL TO ACTION FOR EMPLOYERS AND WORKFORCE DEVELOPMENT:

Integrate skills-based systems into hiring and assure authentic implementation. Engage with impacted communities, since any proposed or implemented solutions may affect them. Value and encourage others to support a narrative that explicitly prioritizes a diversity of learning backgrounds and experiences. Connect with education systems to inform others on growing needs and skills in the workplace. Continue to invest in upskilling staff with an eye towards supporting those who have been historically and systematically excluded.

3.

Local impact has a ripple effect in creating systemic change: a narrative shift starts with individuals and a scalable solution starts with a tactic that helps one learner.

CALL TO ACTION FOR THE PUBLIC:

Raise up solutions to local networks and showcase examples of local efforts that are including more people in digital transformation. Be conscious of the narrative around micro-credentials and begin to push for those in the community to value a skills-based economy.

V.
Appendix

Definitions

Digital equity is a condition where all people and communities have the technological capacity to fully participate in society, democracy and the economy.[52] It is necessary for accessing essential services and promoting lifelong learning, which will lead to employment opportunities. Digital Promise sees a digitally equitable world as one where all learners and communities can access, understand, and adopt powerful use of technology, leading to economic security, well-being, agency, and empowerment.[53]

Digital inclusion refers to the activities necessary to ensure all people and communities — including those that are historically and systematically excluded — have access to and use of technology. This includes affordable, high-speed internet; devices; digital literacy training; technical support; and content designed to encourage adoption of digital tools.[51]

The **digital learning gap** is a problem caused by differences in how Americans access and use technology to improve learning opportunities and outcomes. There are three parts to the problem: access, participation, and powerful use.[54]

Digital literacy is the ability to use information and communication technologies to find, evaluate, create, and communicate information, requiring both cognitive and technical skills.[51]

Inclusive innovation is an equity-centered research and development (R&D) model that seeks to affect change by supporting communities in co-designing solutions that embody novel and differentiated approaches. It starts by intentionally creating and catalyzing opportunities for communities to be at the table with leaders, researchers, and developers. Innovation extends beyond developing new technology — it occurs at the intersection of research, technology, and practice. Inclusive innovation must be grounded in learning communities, developing solutions in partnership with community members and creating learning experiences that benefit every learner by rooting innovation in research, amplifying voices that are often excluded, and using technology powerfully and intentionally.[55]

Learner variability is the recognition that each student has a unique set of strengths and challenges across a whole child framework that are interconnected and vary according to context.[56]

Micro-credentials are digital certifications that verify an individual's competence with a skill or set of skills. They can be earned asynchronously and stacked together to demonstrate readiness for in-demand jobs. They can be awarded in accordance with the Open Badge specification ensuring verifiability, embedded metadata about skills and achievements, and portability.[57] These credentials are typically focused on a specific set of learning outcomes in a narrow field of learning and achieved over a shorter period of time than degrees, diplomas, licenses, or certificates. [58]

Powerful learning is a set of principles guiding educators to design learning experiences that engage the hearts and minds of learners. Powerful learning is personal and accessible, authentic and challenging, collaborative and connected, and inquisitive and reflective. These learning experiences provide opportunities for students to deeply engage in their learning while using technology in ways that contribute to closing the digital learning gap. Powerful learning is an experience to help learners develop intellectual curiosity, skills and content mastery, and agency. Sustained and meaningful experiences of powerful learning are critical to prepare students for lifelong success.[59]

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