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What if we gave every teacher a work from home day?

Kate Eberle Walker

School and district-based staff are understandably wary about the new school year. Teachers, the majority of whom are women, are struggling under the immense pressure of pandemic schooling. Many have worked long hours to try to support their own families while keeping up with the demands of online teaching and changing COVID-19 protocols.

Teacher retention rates were already declining pre-pandemic, and the shortage of educators across roles may be widening. Preparation programs are facing fewer numbers of new educators entering the workforce; thirteen percent of graduate programs surveyed by the American Association of Colleges for Teacher Education reported seeing "significant declines" in the numbers of new students. Of those graduating, many may be turning to

remote options right out of the gate. Member programs in the national Virtual Learning Leadership Alliance reported increased hiring of online teachers since 2020.

Educators want the same flexibility that's traditionally more available to those in corporate settings. In a 2021 survey, fifteen percent

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How to educate in the 4th Industrial Revolution

Dr. Marissa Prather, Director of STEM and Fine Arts, Douglas County Schools

Just for a moment, think about your physical environment. Perhaps you're taking your lunch break in your car that has satellite radio and reading this article on a mobile device. Maybe you're at home on your computer where you've got another browser tab open, creating a meeting agenda in Google Drive to share with your colleagues.

Evidence that we're in the middle of the 4th Industrial Revolution (4IR) is all around us. From the mobile device that can connect you via FaceTime or Slack with co-workers worldwide to cloud computing, we operate in a time and space marked by its reliance on artificial intelligence, blockchain, big data, the Internet of Things, and automation.

As individuals interested in empowering the next generation of young people to succeed, it is time to ensure that the field of education is appropriately responding to the 4IR, which has impacted nearly every industry in recent years. The question, then, is how can we ensure that we educate students to succeed in a world dominated by the 4IR?

Education Lags Behind Industry

Industry reacts to the market's wants and needs as soon as an opportunity to make a profit presents itself. It adopts lightning-speed technologies and uses them in new ways every day. Industry is structured to pivot at a moment's notice and to innovate rapidly. However, the same cannot be said for the field of education.

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of teachers said flexibility to work from home would "make a major difference in reducing the likelihood they leave the profession."

There's no shortage of remote-first education companies that attract school-based talent with their social mission and flexible work. "We are seeing significant growth in applicants seeking to leave the structured onsite work environment in schools in favor of more flexibility and the ability to teach and work remotely," shared Jamie Candee, CEO of Edmentum.

Schools and districts must approach this year with that same level of creativity and urgency as they did in the early days of the pandemic, rethinking long-held beliefs about schooling and implementing new ideas that once seemed impossible to meet the changing needs of their communities. Here are two ways that administrators can apply that same thinking to the coming school year, transforming their schools as workplaces and considering teachers as employees with attractive employment options.

Rethinking school schedules

The concepts of the four-day workweek and remote work opportunities have been gaining momentum in the world of education. Veteran educators may balk at the concept, but now is the time for districts to try more innovative ideas in an effort to retain teachers.

While research on the impact of a four-day workweek in education is still early, some studies do suggest benefits to school districts that participate. A 2021 study completed by Rand found that districts reported that this schedule shift improved retention and teacher attendance; teachers reported that the fifth day was a combination of work and personal activities.

Remote and flexible work schedules are increasingly being used by districts as hiring and retention tools. Butler Tech, a career technical center in Hamilton, OH, schedules fifteen consecutive four-day workweeks – with a twist. Each Friday is an opportunity for students to control their own time, including working off campus, pursuing personalized learning opportunities, or remaining at home to focus on their family priorities; the district calls this the Fifth Day Experience.

"Innovating on the traditional school calendar presented a win-win scenario for student and teacher engagement," says William Sprankles, Butler Tech's Assistant Superintendent of Innovative Teaching and Learning. "Teachers spend half of their Fridays delivering an interest-based session and half of the day planning to complete tasks they might not otherwise have time to tackle."

Schools in districts that aren't ready to make the switch to four-day weeks can use creative approaches to scheduling to accommodate work from home days or reduced time spent in the school building. With a little planning, administrators can pre-arrange each teacher's remote day or proactively establish an alternate schedule to ensure coverage.

"We are a single-site school without a district office to rely on for recruitment or staffing assistance. Increasing flex time for teachers has become one of my main concerns going into the new year," explained the middle school principal of a charter school in New York. "We're considering a four-day student week where grades will alternate coming to school Monday through Thursday and Tuesday through Friday. The fifth day would be flexible for teachers, either used for in-person meetings and planning or work from home days."

Rethinking systems

Administrators can identify room for more flexibility within existing systems. For example, now might be the time to reconsider structures for professional development. Schools can offer teachers "work from home" days in lieu of traditional in-service days or re-evaluate "one-size-fits-all" training, only requiring attendance to those most affected then offering a recording of the session to staff who want to learn more. Rather than keeping teachers in the building longer, principals could deliver all-staff announcements, which typically require staff to gather in a common space after school, via recorded video.

Instead of traditional teacher job descriptions and staffing solutions, employ creative solutions that reduce in-building time for teachers. Educators in many school settings are often required to spend a significant portion of their days on cumbersome tasks like paperwork, forcing them to spend more time in the school building and less time at home or taking care of their families. Consider how to outsource duties to non-certified personnel who might be easier to hire.

A regional superintendent in New York shared her school's creative hiring strategy this summer. "As we entered this year with several open positions, we sourced building assistants to take on clerical duties from teachers. We were looking for anyone with time to give – no background in education required. As a result, we were able to give teachers some of their time back and make new community connections."

Just as corporate workers are nervous to come back to in-person workplaces, many teachers are nervous to come back to school or begin in-classroom teaching for the first time. Districts can draw inspiration from the creativity displayed by educators and reimagine their approach to teachers as employees. What might have seemed impossible pre-pandemic is not only possible now, but it's what's needed to address the deepening challenge of teacher retention. eSN

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Although education is intended to prepare students to live and work successfully in the world as adults, it is currently not prepared to help them do so in the world of the 4IR. This is mainly because education is not as responsive to the needs of industry that lives and breathes the 4IR. Young learners finish school without the mindset and skills necessary to thrive in this environment.

What We Can Do About It

1. Change How We Think.

Partnerships between educational institutions and industry have increased over the decades to help ensure that students graduate with needed skills. However, they have resulted in education that supports learners being able to do a particular job instead of any kind of work, which is necessary for working in the 4IR.

2. Teach the Right Skills.

Students must learn technical skills to navigate life and work in the 4IR successfully. They need to know how to film, make podcasts, blog, and build wikis, for example. Additionally, they need to become adept at different skills, like creativity, working in teams, innovation, time management, communication, and critical thinking. A 2020 World Economic Forum report states that "critical thinking and analysis as well as problem-solving, and skills in self-management such as active learning, resilience, stress tolerance and flexibility" are critical to business leaders.

These skills help students to make the most of existing and new technologies, both now and in the future. If they can learn to think outside the box, they are better prepared to take charge of their learning and become life-long learners.

3. Create Independent, Life-Long Learners.

Upending traditional classrooms and encouraging students to try and fail, collaborate, and innovate is the key to helping students take charge of their learning and encourage their internal motivation and curiosity.

What's wrong with the memorize and regurgitate educational model? It doesn't prepare students to work in a world where they will have to learn new skills to stay current and relevant constantly.

A 2017 Institute for the Future and Dell Technologies report states that "around 85% of the jobs that today's learners will be doing in 2030 haven't been invented yet." Furthermore, the World Economic Forum indicates that "by 2025, 85 million jobs may be displaced by a shift in the division of labor between humans and machines, while 97 million new roles may emerge that are more adapted to the new division of labor between humans, machines and algorithms." Students in classrooms today must be prepared for jobs that don't even exist yet, and the best way to do that is to prepare them to be self-managing learners who are driven to continue learning throughout their careers.

4. Update Curricula and Its Delivery.

Integrating ideas from STEAM (science, technology, engineering, arts, math) with curricula and industry needs is a crucial step in bringing education current with the reality of the 4IR. Reimagining what a classroom looks like is another critical step. Flexible classrooms focusing on teachers facilitating instead of giving knowledge and on students' interests and abilities will help students develop the skills necessary to succeed in a changing world of technology.

Content should also be participatory and personalized. It should be participatory in creating opportunities for learners to think critically about it. Instead of multiple-choice quizzes that assess their knowledge, learners can apply the knowledge to their learning contexts, which makes it more personalized.

Additionally, content should be delivered in group-based situations, encouraging debate and communication of opinions and information. This promotes the development of the crucial communication skills needed for the 4IR. Groups can also work together to create products that practically demonstrate their learning. This also allows them to evaluate and innovate, further improving their 4IR skills.

Changing how content is delivered is another vital facet of making education more compatible with the 4IR. MOOCs and mobile-accessible learning help create self-guided learning experiences that students can utilize to learn new skills relevant to their particular contexts.

Where to Next?

As we–as parents, formal educators, administrators, and invested community members–reflect on how to prepare our learners for the future, we must focus on equipping them with the skills they need. They need to think big and have the self-confidence to roll with the changes the world will continue to throw at them and use those changes to improve their lives and the world. By rethinking and restructuring education to align with the challenges and opportunities of the 4IR, we are better situated to successfully empower learners for their futures. eSN

Dr. Marissa Prather is the Director of STEM and Fine Arts for Douglas County Schools. Dr. Prather is an innovative academic leader focused on engaging with students and educators to meet learning objectives and drive student progress. She is committed to providing empowering leadership through high quality professional learning, research based best practices, and embracing innovation.

5 ways to make your IT department more efficient

Nele Morrison, Director of Technology, Pittsburg ISD, Texas

Sometimes it feels like a school district IT department doesn't get the attention it deserves. Yes, technology is more a part of today's education than ever before, but when tech is running smoothly, it is easy to forget IT departments and the staff that keep the infrastructure running exist.

In my six years as the director of technology for the Pittsburg Independent School District, a town about 120 miles east of Dallas, we've gone through many changes, not to mention what the pandemic put us through. But when COVID-19 forced us all to remote learning nearly overnight, my six-person team was able to move 2,500 students to a one-to-one program rapidly and quite successfully.

As I look back, I realize there were numerous factors contributing to the team's stellar work. What follows are a few points that might help other IT departments better handle future challenges while generally improving operations for the long term.

Support from Administration is Vital

My superintendent, Terry Waldrep, has a degree in computer science, and the school board president, Greg Miller, is a technology company senior manager with a PhD in information technology. In some situations, IT directors might fear being second-guessed by leaders like these, but here it is quite the opposite. While some folks might perceive that fixing an IT problem or distributing new hardware is as simple as knowing what button to push, both individuals understand the complexities of IT and the importance of a planning and systems for an IT department.

For instance, when our district needed to implement multi-factor authentication to update ransomware policies, I knew the technical change was relatively simple. But when communicating the importance of this new policy and training staff, I feared resistance. Our school board president not only understood why we were taking this step, but he offered his expertise as a resource if needed to convince skeptical staff about the change. It's very helpful to have someone, both at the board level and the executive level, who understands IT and is equally invested in its success as my team and I are.

Listen to Your Employees

When our schools transitioned overnight to one-to-one learning and we had to create a help desk for students, I was worried about burning out the staff. Not only was our department physically handling computers for students and staff during the early days of the virus, but each staff member was being pulled in many directions at the same time.

To help them, I secured approval to hire a help desk aide for the entire department to organize the help desk. This seemingly small addition helped immensely. Not only did it validate their importance as individuals and as part of a team, it reset the tasks for our six-person group. They became more effective, better organized, and less stressed. Never forget that switching in and out of different work modes is costly; eliminating inefficiencies makes the whole department greater than the sum of its parts.

Pay Attention to Hiring

I've always prioritized hiring workers who could adapt to meet challenges over those with the best credentials. In fact, some of my staff didn't even come from IT backgrounds. When the pandemic rejiggered our goals and what we needed, having staff with this adaptability paid off. Our team was able to creatively meet new challenges, finding

several ways to deliver computers and connectivity to students and staff, while also keeping us all up-to-date with the latest digital teaching tools.

Actively Invest in Team Building

We are fortunate to have several people on staff with aspirations to one day become district IT directors themselves. During the pandemic, it was clear we needed regular check-ins with everyone so that I understood the pressures they were battling, but I also realized this was a great opportunity to show them parts of my job as the IT director. In the past, I handled our district's e-Rate application and budgeting, not wanting to bother my staff with these administrative tasks. But when considering their long-term goals, I opened up more to show them how I do these tasks.

Pick Software Tools Carefully

It's easy for teachers to grab a free learning tool without thinking about the long-term ramifications of security and support. Our IT department decided quickly during the pandemic to standardize the tools offered to our staff. We did listen to teachers' preferences, but we vetted their choices carefully and if those companies met our expectations, we made the tools available to the entire staff. However, we stuck closely to our standardization plan so that we didn't dilute our effectiveness or stretch the team out unnecessarily. But we also realized that providing an array of tools gives teachers the flexibility to create their own solutions.

One example is NetSupport, which is used in the six Windows-based CTE

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High-speed internet is a basic necessity–not a luxury–when it comes to learning

Laura Ascione, Editorial Director, eSchool Media

Americans overwhelmingly believe that high-speed internet access is a basic necessity, according to a new survey from Kajeet. Additionally, this need for connectivity is not new, as nearly 75 percent of respondents believed high-speed internet was important even before the pandemic began more than two years ago. The survey also finds that 64 percent of U.S. adults are worried about their ability to pay for a high-speed internet connection at home, drawing attention to the opportunity gap and homework gap many students face.

The digital divide–the gap between people who have access to modern information and communications technology and those who do not – is a major issue. Access to the internet has become a necessity in almost all aspects of life today, including education, healthcare, remote work, etc. According to the Federal Communications Commission (FCC), however, an estimated 14.5 million Americans lack home broadband access. For these 14.5 million people, not having access to the internet is a disadvantage.

High-Speed Internet is a Necessity, Not a Luxury

In the survey, 7 in 10 respondents (70 percent) said they agree with the statement "high-speed internet is a basic necessity," with 37 percent saying they "strongly agree" and 33% saying they "somewhat agree." Only 11 percent said they "somewhat disagree" or "strongly disagree." When asked if they agree with the statement that governments (local, state, federal) should provide free high-speed internet connectivity to all Americans, 43 percent said they "strongly agree," 29 percent said they "somewhat agree," and 13 percent said they either "somewhat disagree" or "strongly disagree."

Student Access to High-Speed Internet Was Critical Before the Pandemic

When the COVID-19 pandemic shut down the world in 2020, the digital divide and the critical need for high-speed internet connectivity, especially for learning, became much clearer to many people. But this need existed well before the national health crisis. When asked how important or unimportant respondents felt that at-home, high-

speed internet access was for K-12 students' learning before the pandemic, an overwhelming majority (70 percent) of respondents said it was important. When asked the same question about the importance of high-speed internet connectivity for learning post-pandemic, the same number of respondents (70 percent) said it was important.

Yes, I Need It, but Can I Afford It?

While a majority of Americans (70 percent) said they believe high-speed internet is a basic necessity, more than 6 in 10 (64 percent) said they are worried about their ability to pay for a high-speed internet connection at home. When asked how worried they were, 27 percent said "very worried," 37 percent said "somewhat worried." When asked what three activities would pose the greatest struggle if they were to lose high-speed internet at home, 42 percent said business/work, 38 percent said healthcare, 35 percent said accessing smart home devices and systems and 35 percent said schoolwork.

Parents With School-Aged Children Are Frustrated

- **Schools Can Help:** When parents with school-aged children were asked what they felt their children's school could have provided to make online/distance learning more accessible, 61% said "high-speed internet," 46% answered "technical support for necessary devices," and 44% said "devices such as tablets or laptops."
- **Schoolwork Doesn't End at School:** When asked about which activities at home require high-speed internet access, 42% of parents with school-aged children stated schoolwork for themselves or their children. More than half (52%) said that business/work also required a high-speed connection.
- **Remote Learning is Not Always Possible from Home**: When asked all of the reasons Americans, or someone in their household, have had to leave home to access high-speed internet, 49% said "to complete homework," and 44% said, "to attend online classes."
- **Degrees of Separation:** Almost half of U.S. adults surveyed (41%) have either struggled themselves to access internet connectivity for learning in the last year or know someone who has.
- **Need for Access to Better Technology to Support Online Learning:** Nearly a quarter of parents with school-aged children (24%) said their children's schools have not provided adequate technology to support online/distance learning over the past year.

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10 back-to-school cybersecurity essentials

Cybersecurity within schools can feel like an incredibly complex issue to tackle, but you can address the most critical items one by one

Ryan Cloutier, CISSP, President, SecurityStudio

Summer is over and schools are back in session across the country. If you missed the chance to prepare and test your cybersecurity protocols while students were living their best lives on summer break, there are actions you must take at the start of the school year to get your programs in shape.

Teachers and administrators are ready to kick off a great year of learning, but must match that same preparedness to ensure their cybersecurity safety house is in order.

While not an exhaustive list, here is a checklist of 10 areas that deserve the most attention and that you can get started on (or even complete) immediately. Keep in mind, cybersecurity often touches physical security, too, so some of the recommendations make important cross-functional impacts, including helping you secure and maintain your insurance coverage.

1. Do you have an expert security advisor?

It's imperative you have someone qualified advising you on your security program. This could be an internal or external resource, paid or free, as long as it's someone who is a bona fide security expert. If you don't know someone like this, you can always reach out to your local university and ask if they have senior students or a professor who might be able to help you.

2. Have you completed a risk assessment?

Without completing a formal risk assessment, you can't accurately know what's going on in your world, security-wise. And if you don't know what the threat is, you can't protect yourself from it. A risk assessment can give you all the information needed for an effective security program, including what you need for continuity disaster recovery and incident response planning.

3. Have you designed and implemented security controls?

Once you perform a risk assessment, you'll know which security controls should be put in place, whether they're administrative, physical, or technical. This also includes tackling the issue of access control. Do you know who's coming and going? Have you designated which groups should have access, and to what? Your security controls should be reviewed on a bi-annual basis at worst, quarterly at best.

4. Do you know what you have, and where you have it?

This pertains to asset inventory, in terms of your people, process, technology and data. What devices are connected to your network? What people have access to which systems? Do you know where your data is? If you signed an End User License Agreement (EULA) with a software provider, for example, you may have agreed to having your data sent to third parties. When all is said and done, it could end up in far more places than you anticipated. So, you need to take stock of your inventory, including what's in the cloud (which isn't guaranteed to be secure). Know what you have and where it is.

5. Have you identified who owns what?

Make sure you've delineated who has responsibility for what in every part of your security program. For instance, consider what happens when you sign a contract with a vendor. What parts are their responsibility and what are yours? If there are any gray areas, clean them up early. It's also important to designate who takes care of notifying the school, the parents, and the state in case of a breach. If someone isn't directly told they have ownership over something, they're likely to assume someone else is handling it – leading to major gaps, for which you and your school or district might be liable.

6. Do you have multi-factor authentication in place?

This one is simple and non-negotiable. If you don't have multi-factor authentication in place, you're exposing your school to greater risk. For best results, use an authenticator app over SMS. And, for those employees who gripe about having to take the extra step, let them know it's policy. Just like having their ID showing at all times.

7. Are you prepared to properly and securely dispose of information?

Unfortunately, eBay makes it easy to buy computers that schools have sold to an equipment recycler – with hard drives still intact (e.g. with existing data there for the taking). So, make sure you're actually disposing of your digital information in the right way before you part with a piece of equipment.

A few tips: The disposal should be consistent with the NIST 800-888 guideline for media sanitization, and you should get a signed attestation from the company that they destroyed the data (or will do so) in accordance with

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4 ways library media specialists lead digital transformations in districts

Kristen Whitworth, Library Media Specialist, Dover High School & President, New Hampshire School Library Media Association

During the pandemic era of "emergency teaching," school systems across my state and around the country made deep investments in edtech resources. However, as we move into what some call the post-pandemic era, education stakeholders are searching for strategies to ensure that edtech investments continue to pay dividends.

In New Hampshire, library media specialists are playing a key role in driving edtech ROI. The state Department of Education has made excellent investments in edtech resources, and together with iLearn New Hampshire, has rolled out the Canvas LMS by Instructure, the Kaltura platform for media hosting, Zoom video conferencing, and Discovery Education's digital K-12 platform to schools statewide.

Led by the NH Library Media Specialist Association, the state's K-12 library professionals have engaged in dialogue around how they can ensure their school system can maximize the state's edtech investment in their school system. Each participant approached this conversation assuming everyone else in the group had it all figured out or worked in a district that did. However, what we quickly discovered was that we were all grappling with the same issues. So, we worked to identify some common approaches to maximizing edtech ROI in our own district or school setting.

Here are the four most popular recommendations that came out of those discussions.

1. Create building-based digital tool coordinators

Databases, lists, websites, newsletters, and the like are all excellent ways to share information about digital tools and drive usage. Consider also having someone serve as the central point person for edtech resources your school. Establishing and using this role can be a great help in getting educators to the right person for targeted support, getting the word out, coordinating training, and so much more.

Library media specialists are excellent candidates for this in their leadership role, because they support all the educators and students in a school. Added benefit can result when library media specialists meet as a district team periodically. Digital learning specialists/technology integrators and coordinators are also excellent candidates. Whoever takes this coordinator role will serve their school better if they are members of school leadership teams and have the flexibility needed to support educators while they are teaching.

2. Incentivize use

Educators frequently seek administrator guidance for what they expect to see in the classroom or in use by students. Library media specialists can work with principals and curriculum leaders to foster digital tool adoption by making sure they know what different tools can do, highlighting best practices, sharing fun examples, and advocating for time for educators to play with and learn new tools. Creating fun challenges that leverage engaging digital content and interactive learning activities that can be shared, copied, and edited is an excellent way to foster use that is rewarding, rather than establishing mandates that simply seek compliance.

In New Hampshire, all preK-12 schools have access to high-quality digital content through the NH DOE. This content includes instructional activities that educators can use as-is or edit to meet their needs. These resources can be shared and tweaked to support all learners and tailored to meet specific learning goals. This type of sharing and collaboration reduces stress and saves educators' time. Now that's incentive! This process can also alleviate confusion about what tools educators should select.

3. Keep technology staff in the loop

Depending on district and school technology acquisition policies, your tech team might not be aware of what you're acquiring, what it does, who it's for, what it requires, and if it complies with district or state regulations such as student data privacy and data protection. Go beyond those basic tech

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that requirement. This will confirm the data is adequately disposed of, and remove you from liability (of course, this is not legal advice and you should check with your own legal counsel to make sure you're in compliance with your local regulations).

8. Are you monitoring what you should be monitoring?

The term "monitoring" can encompass a lot, but the point is to have ongoing visibility into your systems and your security controls. To this end, plan to conduct vulnerability assessments, pen tests, and risk assessments against your organization and network, and ask your vendors to do risk assessments as well. Your own findings coupled with theirs should keep you apprised of any holes in your security program.

9. Do you provide enough training?

Training is key for overall security awareness, but it's important to go beyond this. Your staff members should be trained on the proper way to store and share data, as well as on how to report suspected security events. This requires intentional, on-the-job training. For example, if an administrator is planning to send a spreadsheet of student data to a teacher across the hallway, there should be a formal procedure they follow to make sure they're doing so securely. All too often, procedures are lacking which makes it easy to accidentally share private documents publicly.

10. What is your testing and emergency plan?

Safety in general is the top priority within schools, and this includes the physical and digital. Just as you have emergency plans in place for fires (e.g. fire drills), you should have emergency plans in place for other safety systems. For example, many physical safety systems are electronically controlled, like cross-campus door locks. If such a function relies on a computer, it's imperative you check that the computer itself is as secure as you would expect the door lock itself to be. Additionally, are you testing your systems and incident response plans? Testing is the only way to guarantee that all the security groundwork you've laid will yield the results you expect it to.

Cybersecurity within schools can feel like an incredibly complex issue to tackle, but starting with this checklist will help you address the most critical items one by one. Here's to a successful school year ahead, complete with improved cyber safety–and the peace of mind that comes with it. eSN

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requirements and show them what the tool does, how it works, and what integration it requires (with Student Information, Learning Management, or Single Sign On Systems).

This can also be done by your edtech partners. In New Hampshire, we have statewide access to the Discovery Education platform and the DE Manager coordinates between technology staff in the district and the company's technology integration team. This creates a partnership and provides an opportunity to ensure technology staff learn about the system. By informing the tech team, they are more likely to understand the impact when services are impacted or unavailable.

I'm incredibly proud of the work New Hampshire's library media specialists are doing to drive the ROI of digital resources now available to educators. I believe they are equipped to serve as leaders during your school's digital transformation by ensuring communication gaps are closed, technology teams are informed and engaged, and that educators are supported with clear expectations, shareable examples, and exciting ways to engage learners while saving time.

4. Solidify professional learning for edtech

We get it, we know there are so many initiatives that districts must address such as compliance training, new challenges around social emotional learning, competencies, new curricular initiatives, and accelerating learning for all students due to factors from the pandemic. By building a strong facility in navigating and leveraging edtech, administrators empower educators to work towards all these goals.

As leaders with a whole-school focus, library media specialists are poised to assess and address professional learning gaps and opportunities. Let your library media specialists help build PD plans, plan PD days, and play a leading role in building internal capacity among educators to help them help their peers. Training on digital tools does not need to happen in a vacuum. New learning in SEL can be delivered through schools' learning management systems. Resources for competency learning can be built with digital tools, both the competency process and edtech training are happening at once. Combine your PD goals!

The days of solving one problem at a time are behind us. Let your library media specialists lead your school's digital transformation through edtech coordination, motivation, information, and education. eSN

Kristen Whitworth is a Library Media Specialist for Dover High School (New Hampshire) and the New Hampshire School Library Media Association President.

This school year, align teaching strategies with student learning styles

Technology tools can alleviate pressure from teachers to deliver the right teaching and learning environment that accommodates various learning

Dr. Micah Shippee, Director of Education Technology Consulting and Solutions, Samsung

The COVID-19 pandemic created an educational environment that had never been seen before. Many students — and instructors — were abruptly forced to transition from traditional classroom learning to adopt a new remote format. It accelerated the emergence of a new dynamic learning environment, where students learn in innovative ways far different from how education systems were originally designed. With advancements in technology and the rise of remote learning, classrooms are being remodeled and redefined to fit the evolving needs of modern digital learners.

But if there's one thing that educators have learned over the last two years, it's that a one-size-fits-all approach to instruction doesn't work when you want to empower everyone to succeed in the classroom. Many educators were forced to rethink how to keep students engaged, and pandemic-era learning has only further highlighted the importance of differentiated instruction.

The forced disruption was also the catalyst for students and teachers to quickly acquire digital skills that are ripe to be amplified, taking them from consuming skills to creating skills. As teachers integrate technology into their lesson plans, they're discovering various classroom tools effective in reaching and enriching the minds of all types of students—from visual and auditory to kinesthetic learners.

Five Principles of Learning

Before exploring how technology can alleviate pressure from teachers to deliver the right teaching and learning environment that accommodates various learning styles, it's important to home in on Merrill's Principles of Instruction. David Merrill studied various instructional design theories and models to identify a number of principles common to each. In his research, Merrill established five instructional principles that can be applied when designing a program or practice to achieve effective and efficient instruction across the various learning styles. In short, Merrill's principles highlight that learning is promoted when:

- Learners are engaged in solving real-world problems;
- Existing knowledge is **activated** as a foundation for new knowledge;
- New knowledge is **demonstrated** to the learner;
- New knowledge is **applied** by the learner;
- New knowledge is **integrated** into the learner's world.

These five principles outline the power of hands-on learning in each form, where each individual student makes real meaning of the process. It's never been more important for educators to incorporate these principles into classroom practice and curriculum design, which employs STEM-thinking over siloed content understanding, to prepare students for an increasingly digital future.

Visual Learners

Visual learners are at their best when they first see what they're expected to know. These students are partial to seeing and observing vivid displays and can be engaged through the use of images, presentations and videos. Also known as "spatial" learners, these students might draw, make lists or take notes in order to interact and process

information. Thinking back to Merrill's Principles of Instruction, visual learners will absorb information more effectively when they see a prime example, typically through demonstration. For example, a visual demonstration of the task that outlines each step, and explores associated behaviors and skills.

Teachers can use technology to produce these visual aids to help students understand lessons. For instance, interactive displays allow teachers to apply the demonstration principle by showcasing educational videos, online tutorials, or even rich infographics that showcase main ideas. Closed captioning with videos can also enhance student engagement in the classroom. Using visual and auditory learning aids in tandem can help increase student's retention of new information, with studies suggesting that captions can help improve students' comprehension of topics and consequently, test scores. eSN

Dr. Micah Shippee has served as an educator for over two decades. He is the author of two books: WanderlustEDU: An Educator's Guide to Innovation, Change, and Adventure and co-author of Reality Bytes: Innovative Learning Using Augmented and Virtual Reality.

Reaching the 4Cs with 3D and virtual reality

Megan Bateman, Technology/ Media Literacy Specialist, Art Specialist, & Data/Intervention Specialist, Minnesota

I thought I was ahead of the times when I acquired virtual reality headsets and other mixed reality technology via a grant award in late 2019. The pandemic shutdowns halted my plans to use the acquired virtual reality headsets for virtual field trips and other STEM investigations. Returning to in-person learning just six months later, the prospect of utilizing this tech for meaningful integration seemed more daunting and less appealing.

Feedback from my students revealed that they had already consumed hours of 360° views while gaming on their home computers and were well versed in digital travel because teachers frequently used video tours as engagement tools during the pandemic.

To overcome my discouragement, I recalled that in 2020, Natale et al. published a review of recent research related to learning with virtual reality and concluded that VR is not as impactful on learning when done with non-immersive tools such as the Chromebooks students were issued when they were forced into distance learning.

Holding fast to the prospect that the virtual reality headsets would be the key to pushing past the passive consumption of video and games by providing impactful immersive learning, I patiently awaited the opportunity to integrate this tool.

Shockingly, at the mention of being able to use virtual reality headsets this year, my students responded with something to the effect of "Yeah…like an Oculus? Eh…I've already played a lot with that because I have one at home." Once a novel technology, the current mindset seemed to be that VR was just another toy used to consume games and other media. I was not looking to use VR to gamify my classroom. I wanted my students to be able to use virtual reality as a medium for developing the higher-order thinking skills that McQuiggan et al. (2015) described as critical for thriving in today's digitally connected society.

To push them past the consumption mindset, I developed an immersive design adventure that awakened and inspired the 4Cs of learning: creativity, critical thinking, collaboration, and communication.

To begin our adventure, I presented students with the opportunity to create their own virtual world or space with no limitations (other than their own imaginations). They used a web-based mixed reality application called CoSpaces to create their worlds. Providing very little direct instruction, I encouraged students to play around with the tools and see what their creative imaginations could produce.

After a while, I unveiled some design challenges that would push their critical thinking skills and encourage them to use instructional resources. One of the design challenges was to create an object that makes sense in their virtual world. With this challenge, I introduced another 3D web-based design program called Tinkercad. The object had to be exported from Tinkercad and imported into their virtual world. Other project challenges incorporated the use of environment design, 3D building blocks, and coding tools within CoSpaces. To finish this project, the students used VR headsets to explore and play around in the virtual worlds they created.

It was clear that the project had engaged them creatively, yet there were lingering tones of consumption when the end result was "getting to play" in the worlds through the VR headsets. Other than opinionated reactions, I observed very little communication or collaboration between students during this part of our design adventure.

The second part of the 3D and VR design adventure centered around the concept of design for a purpose. The learning goal in this design challenge was to invent something that did not already exist on Earth to solve a problem. The set of pre-written problems students selected from were similar to real-life problems. To unlock the potential for fantastical ideations, we pretended that people were trying to settle a civilization on a new planet and needed the help of our creative students to solve their problems. With this modification to the challenge, students were poised to engage in the human-centered engineering design process, and take on roles as inventors. Students were no longer encumbered by the physics or materials of Earth, but still needed to apply human empathy and critical thinking to fully understand the problem and ideate potential solutions.

After creating a prototype of their invention in the 3D design software, students uploaded them to a shared virtual space with others whose problems were of a similar social category (health, transportation, etc.). The shared virtual spaces served as an additional collaborative and critical thinking design challenge for the students. Students worked together to create a representation of the landscape of the new planet based on clues from their citizen's problems.

After that was done, students viewed their shared worlds and prototype models through the VR headsets to evaluate the placement and scale of their models in relation to the landscape elements. The experience of viewing, manipulating, and rotating their invention prototypes through the VR headsets allowed

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How to create inclusive learning environments with UDL

The UDL framework can help teachers shape inclusive learning environments and can support K-12 leaders in implementing new programs

Luis Pérez, Technical Assistance Specialist, CAST

What are inclusive learning environments, anyway? Putting a definition on this complex concept is deceptively tricky. Environments aren't just spaces that we exist in; they also encompass the culture in that space. Here's how I define it:

An inclusive environment is a place where I can see myself, where I'm represented as a human being—and as a learner. It's a space that feels as if it were designed specifically for me, where I know my voice will be heard and respected.

The pandemic exacerbated inequities in education, but it also put a spotlight on them. Instead of returning to the "normal," pre-pandemic version of school, I propose that school, district, and classroom leaders take this opportunity to shape a new system—one that's effective for every student.

To create inclusive learning environments, educators can leverage the principles of Universal Design for Learning (UDL).

What is Universal Design for Learning?

UDL is not another program that teachers have to shoehorn into their already-crammed day–rather, it is a process and framework to help educators ensure they are reaching all learners. Think of UDL as an operating system, of sorts, for your classroom, school, or district. The goal of this system is deceptively simple: make education work for as many students as possible.

Applying UDL in the classroom

To effectively use the UDL framework, educators musttake time to self-

reflect, consider what barriers exist, and what changes can be made to remove them.

This can be as simple as letting students choose from a variety of formats for lessons and assignments so that each can learn new content and show what they know in optimal ways. For example, learners could have the option to write an essay or choose to present it orally. Students could decide whether they'd like to read that day's material from the textbook, or view a video summarizing the content.

A more thorough example of applying UDL in the classroom comes from a group of first-grade teachers. When the teachers needed to create a new writing lesson, they used journey mapping to put themselves in their students' shoes and brainstorm ways to make it inclusive and relevant for every learner.

After outlining every part of the lesson on sticky notes, the teachers identified potential barriers and adjusted their learning methods and materials as needed. Later, when the teachers taught the lesson, they agreed it was the most successful one they had ever presented.

Alleviating "initiative fatigue"

It's important to note that UDL is a process and mindset, not an off-the-shelf program or initiative—a way of thinking about lesson design rather than a "to-do" list.

Even before the pandemic, educators were dealing with initiative fatigue—adding "one more program" or implementing "one more platform"—without considering how it would impact staff and students.

UDL isn't one more thing. It's an iterative process of "plan, try, reflect":

- **Plan** as intentionally as you can, with the variability of students (and staff) in mind
- **Try** it out
- **Reflect** on what worked, what didn't, and what could be done differently next time

The beauty of this process is that it's flexible. The UDL framework can help teachers shape inclusive learning environments, support K-12 leaders in implementing a new program, or even help guide a professional learning opportunity.

One step at a time

Just remember, while the first-grade lesson mentioned earlier was a success, teachers can learn a lot from those that don't succeed. My advice: don't let the idea of perfection get in way of trying something new. Involve students in the process, welcome their opinions and celebrate their differences—that's how you create a learning environment that is truly inclusive. eSN

Luis Pérez is a technical assistance specialist at CAST. He promotes the creation, delivery, and use of high-quality accessible educational materials and technologies to support equitable learning opportunities for all students.

5 digital tools to enhance your social studies instruction

Stacey Higgins NBCT, GT Endorsed, Fourth Grade Team Leader, Forest Lake Elementary School

Over the span of my 22-year career as South Carolina public school educator, I've taught in self-contained classrooms and I've been in departmentalized settings. Although I love teaching all subjects, I always choose English/language arts and social studies, in part because I love the challenge of engaging young leaners in these important subjects.

As a fourth-grade English/language arts and social studies teacher in an elementary collaborative learning magnet program–which is also a NASA Explorer School–I get the challenge of unlocking the minds of 9- and 10-year-olds who are more at home in the STEM subjects than in exploring literature or our country's history.

In my quest to engage my students in social studies, I've found that, after a few rounds of trial and error, the social studies textbooks belong on the shelf. Instead, I've turned to a host of exciting digital resources that would engage the students and connect their lessons to the "real world", enhance my delivery of instruction, and expand students' knowledge of our country's history.

However, the digital resources are not enough—they need to be applied within the context of effective, classroom-tested strategies. Among the most effective strategies I've used are the following:

Direct Instruction – Game Show Style…Quizizz!

Platforms such as Google and Microsoft provide variations of this digital tool known as a slideshow. Slideshows allow you to embed text, images, video clips, and animation all in one place to make the flow of your lesson seamless. Using this digital tool is a great way to deliver an engaging social studies lesson. However, if you want to take your slideshow to another level, you must try Quizizz! Quizizz allows you to take an ordinary slide show and turn it into an interactive lesson/game. Not only does Quizizz make learning history fun, but it also helps you to stay focused and manage your instructional time.

Preparing a Quizizz lesson is super easy! You simply upload a slideshow or create one from scratch, then add questions, video clips, or polls to keep students engaged. With lessons in Quizizz, you check for understanding using a variety of question types such as multiple choice, reorder, match, fill-in-blanks, open ended, video response, and audio response.

The main benefit of this digital tool is the students' enjoyment for learning! The leaderboard, which can be disabled, keeps the students attentive during the direct instruction portion of the lesson. Another benefit is that you can assign the lesson for students to learn asynchronously. Not only can you use Quizizz for direct instruction, but you can also use it as a review or assessment tool by simply assigning students to in the Live Quiz or Test format.

The AEIOU Strategy with a Twist with Discovery Education

Discovery Education, a resource provided by South Carolina Department of Education to school systems across my state at no cost, provides a variety of SOS Strategies for various phases of instruction. The AEIOU engagement strategy can be used with a digital image or video clip related to the objective for your lesson. Discovery Education provides a variety of images and video clips which can be filtered according to your state standards and grade level.

With this strategy, students view an image or video clip, think deeply about what they see, then respond in this way:

A– provide an adjective to describe the image/video clip

E – provide an emotion that the image/video clip evoked

I – name something interesting about the image/video clip

O – describe what about the image/video clip made you say "OH!"

U – write a question that they had about the image/video clip

You can display the image/video clip or assign it using your LMS platform. Students' responses can be recorded in their notebooks.

Once students have an opportunity to respond to the AEIOU, I have them collaborate with their classmates via musical shares (this is a turn and talk activity that allows students to move about the classroom and start a conversation with a new person once the music stops).

This successful strategy brings excitement to my classroom because the students get to talk about images/video clips while moving about the classroom. My visual, auditory, and kinesthetic learners walk away from this activity not only building on prior knowledge, but also with a foundation for discussion points as we dig deeper into the lesson. From the teacher's perspective, no instructional time is wasted because learning takes place from the moment the AEIOU activity begins.

Independent Practice/ Assessment – Social Studies Weekly Online

When I decided to put the social studies textbooks on the shelf, I had to replace them with reading material that would give my students the facts! Social Studies Weekly Online breaks my state's social studies standards into weekly issues of articles that are accompanied by bonus material enhancing what students are reading.

Social Studies Weekly Online can be used for the whole class, small group, or independently. After reading each article, students answer questions and earn coins to use as they create a comfy home for their virtual class pet, Revere

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Rat. Teachers can informally check for understanding with the questions after each article or assign the test that covers material from the entire issue.

Some additional benefits of Social Studies Weekly Online include the opportunity to create artifacts from various time periods in the arts and crafts section. They can also go on virtual field trips related to historical topics that we discuss in class. Lastly, my students can complete research through Social Studies Weekly Inquiry activities.

Assessment – One Pagers with Google Drawings

In addition to being a magnet NASA Explorer school, we are also an AVID school. To support my social studies instruction, I like to have my students use an AVID strategy called one pager. One pagers are creative posters that can be used as assessment to show what students have learned or researched. One pagers are also a great strategy for creating timelines as well as cause and effects of historical events. When creating one pager, I have my students use Google Drawings.

Students can create their Google Drawings one pagers using guided questions if you are looking for specific information or you can have students create their own questions to research. Depth of Knowledge question stems are a great resource to help your students generate their own questions. Within Google Drawings, images and text can be added to one page in order to share knowledge on a specific topic.

Google Drawings one pagers are a student-friendly way of assessing the children. Students get to show their creativity through the use of this digital tool. Students who may not be the best artist or have impeccable penmanship enjoy using Google Drawings.

Collaboration – Jamboard

As part of a magnet program that promotes collaboration among students, I find that Jamboard is a fun way to have students work together on a social studies assignment. Jamboard is a free digital tool found in Google Suites that allows students to work together on an interactive board.

I often use Jamboard to have my students compare and contrast people, groups, and concepts learned in social studies. Students are assigned a designed Jamboard that includes a Venn-Diagram labeled with items that pertain to the lesson. After prompting the groups of students to discuss the topic, they use features such as sticky notes, text boxes, or images to complete the Venn Diagram. To ensure that all students are participating, I assign a text color or sticky note color before they begin working. An alternative activity could be to have students collaborate by analyzing maps that show change over time (i.e Westward Expansion). Students can summarize how an area has changed by adding text boxes or sticky notes. They can also label areas of the map with additional information regarding the change over time.

This easy-to-use digital tool gets students involved in a group assignment while incorporating skills such as recognizing contributions made by peers, adding to others' ideas, asking questions for clarification, and summarizing. Jamboard can be used in a traditional, virtual, or dual modality classroom.

More than ever, social studies is critical to students' lives beyond the classroom. As educators, it is important we use every possible tool to engage students in this critical discipline. eSN

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the students to analyze their designs and understand what needed to be changed or improved. With that knowledge, students could return to the 3D design software or utilize tools within the VR design platform to change the size, colors, or other aspects of their prototypes without worrying about material waste.

The collaboratively-designed virtual worlds served as virtual invention presentation galleries. To push past mere consumption through viewing, students needed to have a way to communicate the purpose and function of their inventions. Instead of having their classmate explain the design as the student explored it through the virtual reality headset, students created a sign next to their invention prototype to explain how it works and solves the problem. This communication method was selected partly because research by Huang et al. (2019) showed that it is difficult to process and retain auditory information during immersive visual experiences in VR. After viewing the galleries through the headsets, students engaged in peer reflection discussions. This time, I observed them asking relevant questions about each other's creative processes and ideations.

At the conclusion of this immersive adventure, we celebrated the accomplishment of pushing past consumption of virtual reality to find pride in becoming creators and designers with immersive technology. Students could now conceptualize the difference between just using or playing with virtual reality and being VR content creators. I was proud of my students and pleased with the successful integration of emerging mixed reality technology with the 4Cs skills that students need to thrive in today's world and the world of the future. eSN

Megan Bateman is an educator and graduate student with a mission to inspire ed-tech integration and empower our youth to be innovative designers and critical thinkers so that they may make meaningful and joyful contributions to our communities.Currently, she serves as a Technology/Media Literacy Specialist, Art Specialist, and Data/Intervention Specialist at a STEM school in Minnesota.

Is it time to double down on digital citizenship training?

Digital citizenship training must continue forward as an ongoing conversation between all members of a school and its community

Dan Palkki, Lower School Principal, New Life Academy

About a week ago, my 5-year-old daughter asked me a question I was not quite prepared for. As we were walking back to our house from the neighborhood park, she asked, "Daddy, when am I going to get a cell phone?"

She went on to explain the specific ways in which a cell phone would benefit her life. She even assured me that she wasn't too young for a cell phone. In fact, other kids her age already had one! Even though it was difficult saying no to her sweet little face, I explained that she would need to wait a few more years to take on this type of responsibility. But, why?

My daughter's question really got me thinking. With so many young people having increasing access to technology, is it time for schools to take digital citizenship training more seriously?

What is digital citizenship?

Before we dive into why digital citizenship is important, let's begin with discussing what it is. In a nutshell, digital citizenship is the safe and responsible practice of using digital technologies. All people who interact with digital technologies are digital citizens, however, responsible digital citizens are those who understand the potential risks and issues that can arise when using technology (LillyWhite, 2021). Responsible digital citizens desire to use technology respectfully, safely, and productively. Digital citizenship has been divided into nine key focus areas which include: digital access, digital etiquette, digital law, digital communication, digital literacy, digital commerce, digital rights and responsibilities, digital safety and security, and digital health and wellness (Ribble, 2021).

Why is digital citizenship important?

Due to the rise and accessibility of digital technology, more young people than ever have increasing access to it. As recent as 2019, one study found that 98.1 percent of U.S. kids between the ages of 3 and 18 lived in a household with a computer or smartphone (Riser-Kositsky, 2022). Beyond this, a greater number of school districts are moving toward 1:1 and BYOD initiatives due to a collective desire to help students gain the 21st century skills required for success in the digital age (Stauffer, 2022).

Considering the sharp increase in student access to technology, school leaders must become more aware of the need to equip their students with digital citizenship skills. Digital citizenship training helps students understand more than a simple set of technology skills; it helps them become safer and more responsible when online as well as helping them become more discerning regarding their digital interactions, digital engagement, and digital footprint (Copeland-Whyte, 2019).

Does digital citizenship have a place in the classroom?

The most sensible place for students to receive digital citizenship training is right in their classroom. In fact, digital citizenship curriculums like the one from Common Sense Education offer easy to implement lessons from grades K-12 that touch on all nine digital citizenship focus areas (Common Sense Education, n.d.). Digital citizenship practices in classrooms must aim to increase each student's ability to live in a world full of digital technology by helping them understand how technology can and should be used to be a responsible citizen in both the physical and digital worlds (Ribble, 2011).

The problem is, too many school districts have placed powerful technology tools in the hands of their students without adequate or proper training. This is a tremendous disservice to each member of a school's community as it sets

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Are you tackling the durable skills challenge?

Laura Ascione, Editorial Director, eSchool Media

A new effort to evaluate the "durable" skills that lead to success and achievement in the 21st century workforce was launched this spring by nonprofit organizations America Succeeds and CompTIA.

America Succeeds and CompTIA are collaborating on ways to integrate durable skills into education pathways – in the classroom for future workers and in employee training for individuals already in the workforce – to prepare them for success in their careers and communities.

"Durable skills are the skills that last a lifetime, the skills that you use to demonstrate what you know and the skills that employers are looking for," said Tim Taylor, co-founder and president of America Succeeds, a national nonprofit that is committed to engaging business leaders in accelerating equity, access, and opportunity in education.

"We believe helping students better develop their innate durable skills at an early age will help them compete, contribute, and thrive in their careers," said Todd Thibodeaux president and CEO of CompTIA, the nonprofit association for the information technology (IT) industry and workforce.

Durable skills, also referred to as soft skills, human skills or 21st century skills, can be difficult to define or quantify. Generally, they fall under ten major themes or competencies:

1. Leadership
2. Collaboration
3. Creativity
4. Metacognition
5. Growth mindset
6. Character
7. Communication
8. Critical thinking
9. Mindfulness
10. Fortitude

The first step planned by America Succeeds and CompTIA is to bring employers together to define a common rubric of the durable skills that apply across industries and occupations with the goal of developing a method to assess an individual's competency level and understanding of durable skills and

identify actions that can enhance them.

Separate research by the two organizations suggests that employers are interested in identifying job candidates with these skillsets and providing training to close the durable skills gap:

Seven of the ten most requested skills in jobs postings are durable skills.

Employers seek these skills nearly five times more frequently than the top five technical or hard skills.

Two-thirds of HR professionals say durables skills are becoming more important and more of a focus, though half acknowledge some degree of confusion and challenges with soft skills/durable skills.

Sixty-eight percent of HR professionals believe most or all the top 10 durable skills categories can be taught.

"Employers clearly recognize the importance and value of recruiting people with solid durable skills, especially in a tight labor market with little margin for error in hiring decisions," Thibodeaux said. "The challenge is finding a way to accurately and fairly assess a candidate's prowess in these areas. We're committed to finding solutions to solve this dilemma, in a way that eliminates barriers and creates opportunities for a more inclusive group of job candidates."

"As we begin to recover from the pandemic, it is essential that we address the inequities that have been amplified, and at the same time reimagine and restructure education systems and career pathways to work better for all," said Taylor. "Defining and assessing durable skills allows us to focus on those solutions and see a light at the end of the tunnel." eSN

Material from a press release was used in this report.

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students up to fail and places the school in a reactive, not proactive, stance. When it comes to digital citizenship, it's important for schools to move forward toward the future they desire to see. With this in mind, it's time for school leaders to take digital citizenship training seriously and to ensure their students are being adequately prepared for the technologically driven world that awaits them.

Does digital citizenship training take time?

In terms of effective digital citizenship training, it's important to note that its principles cannot be taught overnight. Educators must take a long view approach and should understand that effective digital citizenship training happens over the course of years, not days.

Digital citizenship training must continue forward as an ongoing conversation between all members of a school and its community. Like so many aspects of equipping students for a successful future, proper digital citizenship training "takes a village." It's never too late to implement digital citizenship training in a school–but remember, the biggest mistake a school can make is to ignore it altogether. eSN

Dan Palkki is the Lower School Principal of New Life Academy in Woodbury, MN.

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labs we run at the high school. This tool allows teachers to see the screens of all their students, jump in and help a student who may be stuck, or simply freeze everyone's screen to make a quick class-wide point. The company meets the criteria we've set for longevity, support, and technical standards so it fit into the district plan despite being used in a very specific setting. We leaned heavily on several software solutions, from a program to control our IT inventory to a way to upgrade our invoice system. Even something as simple as improving our digital signage helped control the influx of insurance forms we suddenly had to deal with.

During the pandemic, we originally thought that some of our teachers would struggle to use the technology that was handed out rather quickly, but we were proven wrong. Our staff, from newer tech-savvy teachers to veterans who fondly recall using chalkboards and erasers, stepped up and adapted their classes for an entirely different delivery mode. It was heartening and rewarding for all of us in IT to be such a tangible and visible part of instructional success. eSN

Nele Morrison is the director of technology for Pittsburg ISD in Texas.

Necessity

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- **Online Learning is Here to Stay:** When asked which type of learning model they prefer for their children going forward post-pandemic, almost half of parents with school-aged children (44%) stated a preference for a hybrid model (mix of both in-person and virtual), less than one-third (32%) prefer 100% in-person, and 11% said they prefer fully virtual learning.

Other key findings include:

- **Internet Access Everywhere is Important:** Almost three-quarters (72%) of U.S. adults believe it is important to have an internet connection they can take with them and use outside their home, such as a Wi-Fi hotspot, a Wi-Fi device, internet-embedded devices, etc.
- **Remaining Connected is Essential:** When asked about the importance of having high-speed internet access at home, 65% said they found at-home connectivity is important, which includes one-third (37%) saying "very important."
- **Speed and Quality Problems are Common:** When asked how often respondents have experienced speed or quality problems with their high-speed internet connection at home during the past year, Americans are experiencing frustrations: 20% said "always;" 21% said "often;" 26% said "sometimes;" 10% said "rarely;" and only 3% said "never."
- **Home is Not Always Where High-Speed Internet Is:** Over the last year, nearly three-quarters of adults (73%) said they had to leave home at some point to access high-speed internet.

"The results of this national survey highlight the widely-held belief among Americans that everyone needs to be connected to the Internet. The data clearly show that as the world opens after the pandemic, the need for reliable connectivity is necessary, and makes our society and economy more vibrant and resilient," said Daniel J.W. Neal, chairman, CEO and co-founder of Kajeet. "The survey provides key insights into the types of activities outside of education that require connectivity, such as access to a wide range of healthcare and employment opportunities. With many Americans concerned about how they will pay for this necessary connection, it is essential that more steps are taken to ensure affordable and robust Internet connectivity." eSN

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