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How our district engages students in a CTE program

Larkin LeSueur, Director of Career and Technical Education, Humble ISD

Over the past decade, industries across the world have voiced their concern over the lack of tech skills among high school and college graduates. At the end of 2020, there were an estimated 1.4 million unfilled computer science jobs; this figure continues to rise.

However, the education sector's response is that currently less than half of high schools teach, and only 5 percent of students go on to further computer science study.

It's not just about educating our students to take a computer science career path. Today, computer science skills are used and applied across all areas of the curriculum and a broad range of careers.

Therefore, in Humble Independent School District, we decided to address this issue by



giving more students the opportunity to experience the excitement of computer science.

It wasn't easy.

The challenges

As all schools recognize, teachers find it hard enough to fit a high-quality education of **CTE program, page 2**

Modern students need modern librarians

What it's like being a librarian in 2022, and how librarians provide students with access to resources they need to succeed

Amy Hall, Librarian, Weber School District & Lisa Comly, Library Media Specialist, Reading School District

When you think of a school librarian, what comes to mind? Is it shelving, stamping, and shushing? That's the stereotype you're probably most familiar with.

Librarians are so much more than this, though. We're the keepers of the information, the resource kids use to explore new lands through the turning of pages – but our role as librarians is one that has historically been misunderstood. Because as times have changed, technology has advanced, and student needs have evolved—so, too, has the role of the librarian.

Who is the modern librarian?

As librarians, our job is to not only give students and teachers access to resources they need to succeed, but to be their guide when choosing these resources. We work with teachers and administrators to create life-long learning patterns in students, whether that's by curating resources for classroom research projects or by coming into the classroom to teach a lesson on how to do research themselves.

However, no matter how often we curate materials for these students, the larger lesson we impart to them is how to be conscious consumers

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CTE program

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the core curriculum subjects into each day. A lot of students, especially girls, believe that CTE “isn’t for them” because “it’s too hard,” “too complicated” and “only involves sitting at a computer screen.” Added to this, there is no defined curriculum to teach to and, as with the gap in skills in the workforce, there is also a lack of teachers either qualified or wanting to teach computer science.

Something for everyone

So, in Humble, we wanted to offer enough courses to attract a wider range of students.

We started by painting a portrait of a graduate and the skills they need. Two of the most important attributes of a global citizen are having problem solving and critical thinking skills. To be a good critical thinker and problem solver, people need to be able to take any one task and structure it into manageable chunks, one of the main skills that is developed in computer science. Students who are problem solving orientated will always be able to adapt and thrive in this ever-changing world.

Through this initiative, we started offering our students 170 different CTE course; from cosmetology and cybersecurity to automotive and robotics. Our belief is that if we offer them a wide range of opportunities, we’re more likely that they will elect to embark on a learning pathway and develop a deep understanding of an area of CTE.

Starting early

The next step was to introduce this from the early years.

In most elementary grades coding lessons start with game development, which is seen by many, including me, as the ideal way to introduce students to

computer science. For the early years, Scratch is a popular option. The use of block-based programming gives these young kids an easy, visual entry into developing games. Many studies have shown that the simplicity of the Scratch environment may be the reason for higher engagement in the early years.

There are a wide range of game development programs available for students in the early years, each with admirable advantages. However, the challenge is that as they progress through the elementary and early middle years, Scratch’s block-based programming doesn’t develop with them, leading many students to lose interest and drop out.

The other alternative is moving them on to text-based programming languages such as Unity and Java. However, at the middle school stage this proves to be too complex and daunting, resulting in more students dropping out of CTE.

My colleague and CTE Coordinator Di Nardo “Dee” Bazile and I created a curriculum review committee that looked at all the programming languages and their pros and cons. STEM Fuse stood out because, for teachers, it takes away a lot of the guessing, lesson plan creation, and curriculum design. It was through STEM Fuse that we started using the free version of Construct 3 programming environment. As the early middle school students start creating block-based games they can also see their game in Javascript text-based code. Students can mix-and-match components of block based and text programming in the same project, even to the level of blending elements of each within a program segment. As they progress through middle school, they slowly transition to using less block-based and more text-based programming. This scaffolds the learning, giving the kids the real-world application and a basic

fundamental understanding of computer science by the time they reach high school.


Gaining the confidence of teachers

Another big step was to ensure that teachers with no prior computer science experience would become more comfortable getting involved. Because our chosen game development software comes with its own GAME:IT curriculum, teachers and students are able to dive in and start creating their own games using various.

As one of our teachers, Sydnie Grizzaffi from Atascocita Middle School, said: “I hadn’t done programming since I graduated in 2005, so when I started teaching, I was worried as I’d really be learning it at the same time as the kids. However, we all worked on it together and learned a lot more. Even teachers who are completely new to programming pick it up within a couple of weeks.

“Every semester we have an increasing number of students elect to take one of our CTE courses and more stay on to expand their learning further.”

By providing a wider variety of classes, having confident teachers, and having an effective curriculum with development software that grows with our students, we now have more than 70 percent of students electing to study CTE.

The world is full of unfulfilled jobs waiting for qualified students. Technology and programming are already embedded in every part of our lives. It’s past time we all work hard to let more students experience the excitement of CTE. 

Larkin LeSueur is Director of Career and Technical Education at Humble ISD in Texas.

Librarians

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of this information. Students today tend to think they know everything there is to know about the internet, and although it's true that they've grown up with the technology that some of us are still getting used to, our job is to teach them to evaluate and analyze the at-times overwhelming amount of information that comes to them via their screens.

To be able to teach students these types of lessons, we first have to be able to connect with them. This is arguably the most important part of what it means to be a librarian in 2022. Kids have been virtual for so long that they need a mentor who will pay individual attention to them and listen to them on a one-to-one level. But for them to want to come to us, we have to create an inviting, safe space that fits their needs.

What does a modern library look like?

Building a space that students actually want to inhabit is imperative to facilitating their learning and curiosity when it comes to reading. In some cases, that means out with the stuffy, shush-filled library, and in with the coffee shop vibes. Because as long as a student simply enters the space – even if it's just to hang out – that gives us the opportunity to make a connection with them.

When it comes to reading for pleasure, students have so many other competing interests available to them – movies, games, social media, and TV shows – that we need to aim to make it an attractive, conscious choice. As librarians, we can do this by offering a range of genres and formats for students to choose from: novels, comics, magazines, audiobooks, print, or digital.

The modern library can also transcend the physical space, existing in a virtual realm without walls – one where students have the option to check out books anytime, anywhere. During the 2021-2022 school year, the Reading School District saw over 13,000 ebooks



and audiobooks checked out through the Sora K-12 reading app. This was more than the number of print books borrowed. Furthermore, Weber School District students read over 96,000 hours in the Sora app during the last school year. Digital books give students the autonomy to choose what they want to read based on what they're interested in, and that sense of freedom in turn inspires a love for reading.

Challenges facing the modern school library

Even as the school library modernizes, some of the obstacles facing it – like book challenges and bans – are not as new. As these issues have become a hot topic over the past year, they've made us stop and think about our library collections and the students who read them.

Our job as librarians is to ensure that we have materials that are representative and informative for all patrons, while following all policies set out by our districts. There are so many great resources available that give age recommendations for materials. When we combine the kinds of policies instituted in our district with the drive to include all students in the library, students will be able to see themselves more easily in their reading and learn about new ideas and perspectives.

Additionally, it's incredibly impor-

tant to talk to parents and students when they have concerns about materials, and we have to thoroughly understand the book challenge process outlined by our districts. If a parent, student, or teacher would like to challenge a book, we have to make sure that we can follow the policy outlined by our district leadership, which includes studying books in their entirety and examining the placement of materials.

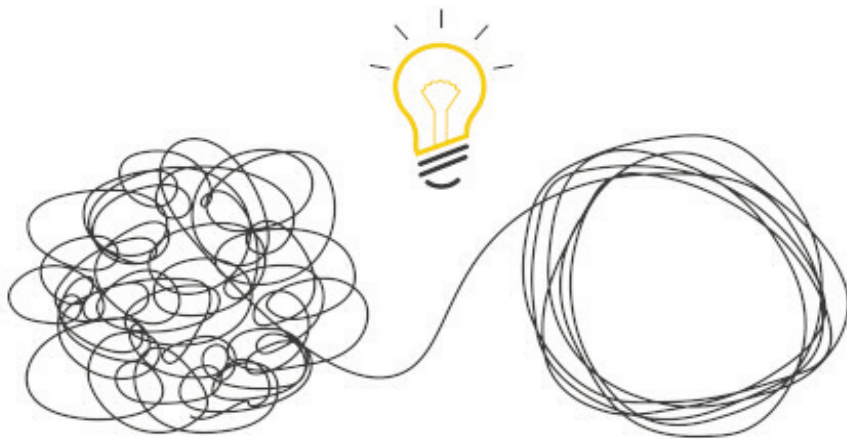
Looking Forward

In our (admittedly biased) opinion, there's nothing more rewarding than being a librarian. Knowing that we played an active role in a student's learning as we watch them walk across the stage at graduation is a feeling that can't be beat. It's crucial that in the coming years, we keep making connections with students to ensure their curiosity, creativity, and love of learning continues beyond the classroom. **eSN**

It's our duty as modern librarians to provide students with access to age-appropriate resources that follow policy, while also keeping the needs of each student in mind. This job isn't for everyone, but for us, it's just right.

Amy Hall is a Librarian at the Weber School District in Ogden, UT, and Lisa Comly is Library Media Specialist at Reading School District in Reading, PA.

Problem-based learning helped boost my underserved students' engagement



Allie Langwald, Teacher, Hope of Detroit Academy

As educators, our charge is to impart knowledge onto our students, open new doors for them, and encourage them to stretch beyond their comfort zones. We try to show them every day that they are capable of doing anything that they set their minds to, but how often do we follow our own advice and push our own boundaries to try or learn something new?

As a physical education teacher in an underserved community, finding ways to connect with my classes during the pandemic and a time of remote learning was challenging. With sports being canceled, I was searching for new avenues to engage my students when I came across the Samsung Solve for Tomorrow contest, a program encouraging problem-based learning.

The contest tasks middle and high school students with identifying a solution to a real-world problem using STEM, and I was hesitant to apply as I do not teach a traditional STEM discipline. However, I knew that my students have a passion for making their community a better place for themselves and their families, and I decided to step outside the box and go for it.

Throughout the course of the project development, I watched my students

approach problems from different angles and come up with solutions to real-life issues that they experience every day. My students at Hope of Detroit Academy identified urban decay as an issue that was close to home but affects many other areas in the U.S., and they have seen firsthand how it takes a toll on their community economically, socially, psychologically, and physically. They landed on developing an app to track and report abandoned homes and illegal dumping sites in Detroit to community groups that lead clean-up efforts.

Our project, the Green Warrior app, has been used in Detroit since mid-last year to track where the city has come in to clean up vacant lots, board up or tear down abandoned houses. Our work isn't done, and we have a goal to roll it out in Spanish as well.

Our class was named a National Winner in the Samsung contest, earning \$130,000 in technology for our school. News of our win made it all the way to Michigan Representative Abraham Aiyash and Congresswoman Rashida Tlaib, followed by accolades including a Spirit of Detroit Award for outstanding achievement or service to the citizens of Detroit and a 2021 Congressional App Challenge honor, the most prestigious national recogni-

tion for students in computer science.

Due to this exposure, our school received additional funding from Ferris State University, allowing us to use our winnings to build an outdoor classroom, purchase VR headsets and 3D printers, and build a state-of-the-art STEM lab. Providing students in this lower-income community with access to this technology and innovation is critical as it increases student engagement, improves collaboration, and helps foster personalized learning.

Following our success with Solve for Tomorrow, we are remodeling the structure of our school to reflect the pillars of STEAM – we are building a specific wing where we will host science, technology, engineering, art, and math classes, and have added new electives to align with the different tracks to ensure students' high school education prepares them for their future college and career plans. As a part of this, I now oversee an environmental STEM class focused on designing projects that benefit the community.

It is not necessary to teach a STEM subject or have a science or technology background to implement problem-based learning in the classroom. This hands-on education not only caused my class to think about who they are as students and citizens of the world, but also forced me to reevaluate myself and who I am as an educator. The kids got to witness firsthand their power to make change in the world, which is an intangible confidence source for students who truly need it.

Whether you teach science, art, band, or physical education like me, I highly recommend applying to the Samsung Solve for Tomorrow contest, which opened September 21. **ESN**

Allie Langwald is a teacher at Hope of Detroit Academy.

3 ways educators can embrace and enable inclusive programming

Youn Han, Chief Programs Officer, Girls Inc. of the Pacific Northwest

While the effects of COVID-19 may have diminished for many thanks to widespread vaccine- and infection-induced immunity, the pandemic continues to have a significant systemwide impact and exacerbate social gaps. Students still experience elevated levels of pandemic-prompted emotional trauma, anxiety, isolation, and psychological distress due to schedule interruptions, remote learning, the deaths of family and friends, inequitable access to health care, and job insecurity.

Throughout history, the underprivileged, oppressed, and marginalized communities are often the most severely impacted, as our societal infrastructures and systems have shown. Those who are marginalized, and in some cases deliberately oppressed, often must navigate unjust and inequitable policies. This problem defines so many of our systems, and in an educational setting it is compounded by the pressure to learn, get good grades, avoid discipline, and graduate.

The dire ramifications of the pandemic and its effect on our young learners is tantamount. Learning loss is at an all-time high, and most students, especially those whose families can't afford small-group or private tutoring, are behind academically. We all remember being in school: it's not just grades and tests; it's your social life, it's where you see your friends, and it's where you better understand your identity and your role in society. Being in school provides so many important identity-forging, character-building and developmentally significant opportunities. Today schools, with heightened focus on mental health and self-care, provide a safe place for youth to be vulnerable and talk openly about what they're feeling.

According to the Center for Disease

Control and Prevention (CDC), “37 percent of high school students reported experiencing poor mental health during the COVID-19 pandemic, and 44 percent reported persistently feeling sad or hopeless [during 2021].” Data collected prior to the COVID-19 outbreak also indicated that mental health, including depression, anxiety, and suicidal ideation, was getting worse among high school students.

Youth who identified as LGBTQIA+, female, and BIPOC reported greater levels of poor mental health and attempted suicide than their peers. The CDC reports that “almost half of lesbian, gay, or bisexual students and nearly one-third of students who aren't sure of their sexual identity reported having seriously considered suicide – far more than heterosexual students,” and “the number of Black students who reported attempting suicide in 2019 rose by almost 50 percent.”

Adjacent to the challenges that the pandemic posed, youth who represent as lesbian, gay, bisexual or Black are consistently battling mental, emotional, and cultural obstacles and barriers associated with understanding their identity within institutional and social constructs that constantly tell them they're not “normal” or “not enough.” There are constant implicit messages telling LGBTQIA+, female, and BIPOC youth how they “should” be, and the way youth internalize these messages can lead to mental and emotional conflicts.

This is a call to action. We all have a role – big and small – when it comes to our community's health, and sometimes the small things have the greatest impact. For educators and program designers, the time that students spend in their classrooms is an opportunity to create a container where students feel truly seen, find attunement, forge community, and connect with their peers and trusted adults. Time and time again,



relationship and connection prove to be important to healing.

Inclusive programs and curriculum design are inherently structured to elevate and make space for all the unique identities and experiences that youth bring into the classroom. This creates a safe, positive, and affirming environment for all and directly destabilizes the power hierarchies and social constructs that have exacerbated mental health challenges for youth.

For educators, youth development workers, program facilitators, mentors, and program designers alike, here are three steps you can take today to create a more inclusive space for youth:

Do some personal work. We are all products of the world we grew up in, and even though everyone has implicit bias, we don't have to be agents of it. Ask yourself, what implicit messages am I imparting? What unintended impact did I have on a person or situation? Put aside your good intentions and justifications, and answer this honestly. What role do you want to play in subverting existing stereotypes? Know when to admit when you're wrong and course correct your behavior. Assess how you can be a role model for openness and a growth mindset.

Inclusive, page 14

How to make project-based learning a reality

Part of what makes PBL so magical is that educators are helping students acquire valuable knowledge that they can apply right now in their own community

Terra Tarango, Director and Education Officer, Van Andel Institute for Education

One of the many reasons I love working for Van Andel Institute for Education is that I get to be a teacher Fairy Godmother. Teaching is an important but difficult job, and sometimes educators can get stuck on a specific need for their classroom. Maybe it's finding the perfect resource for a lesson or connecting certain content to a project idea.

Whatever the situation calls for, my colleagues and I love to swoop in and help make their dreams a reality. But every Fairy Godmother needs a magic wand to work her wonders, and for my part, there's no better resource to meet teacher needs than project-based learning.

What is project-based learning, anyway?

Let's start with what project-based learning is not. PBL is not simply a fun and creative project you implement in class. Don't get me wrong, having students participating in a fun, imaginative activity can be good, but it's a bit like the "dessert" of learning. These activities can be sweet and easy but they're not exactly nourishing. PBL is the main course—the discovery of knowledge and skills through the development of a meaningful, sustained project.

True project-based learning is recognized by characteristics like sustained inquiry, iterative thinking, and cross-curricular learning. Unlike a standard project, which is usually a one-and-done deal, PBL should build on itself.

As students pursue their investigations, they should also be practicing social-emotional skills like communication and collaboration, and upon completion, they should know how to apply their learning to real-world problems.



That's what makes PBL so magical – you're helping students acquire valuable knowledge that they can apply right now in their own community.

Examples of engaging PBL

One great model for authentic project-based learning is the Blue Apple unit, Take a Stand. In this project, students take a stand in support of a public policy issue that matters to them. They learn about all sides of several topics like education and the environment. Then, through respectful discourse, they construct and articulate well-researched positions on a topic of their choice through an inspirational podcast. One class even shared a video where you can see how students are engaged, driven, and practicing their critical thinking skills!

Not only does the PBL unit come with rich resources such as a book list and content standards (which are great for busy teachers), but it also provides a degree of flexibility you don't find in standard lessons. Consider a student who struggles with literacy—a project like Take a Stand can help them grasp concepts like sequencing, summarization, and themes all through hands-on learning. The same is true for concepts in math or science. Students who are

normally challenged in these areas will have the opportunity to approach them from a different angle. Not only does this help them overcome a learning block, but it's done in a way that's memorable, meaningful, and fun!

Getting started

I truly believe that now is the time to start implementing project-based learning in our classrooms. I feel the pandemic brought out a real craving for authenticity in our learning and relationships with one another. This new school year is a real opportunity to reimagine what teaching and learning can look like in our schools. If we approach things slowly and intentionally, we can change teaching and learning into what we got into this profession for it to look like. So, give project-based learning a try, and if you find yourself in need of a Fairy Godmother, please don't hesitate to reach out!

eSN

Terra Tarango is the Director and Education Officer for Van Andel Institute for Education, a Michigan-based education nonprofit dedicating to creating classrooms where curiosity, creativity, and critical thinking thrive. To learn more about Van Andel Institute for Education, visit vaei.org.

5 tools every school tech director should use

In order to optimize their school and district's network security, school tech leaders should use tools and resources strategically

Charlie Sander, CEO, ManagedMethods

Teaching methods have changed dramatically over the last few years, leading to numerous electronic resources entering the classroom. This makes school IT a formidable challenge—security experts have to juggle budget constraints with heavy traffic on the network due to a huge number of connected devices.

There is no stopping the use of technology to enhance student engagement and learning. Therefore, cybersecurity concerns are increasing along with K–12 schools' dependence on technology.

While no network is impervious to assaults, a reliable and effective network security solution is crucial for safeguarding student data and decreasing districts' vulnerability to data theft and sabotage.

The tools you select, and their respective performance levels, should be determined by your tech team's budget and capabilities. Let's outline the five tools that school tech departments need to be using.

Infrastructure and Configuration

Staying on top of network controls, flow, and operations is essential because unpatched network firmware is a common source of attacks. Network configuration helps set up and maintain networking devices, firmware, and software to block new exploits and fix bugs.

According to a recent Microsoft analysis, over the past two years, at least one attempted firmware assault has been made against 80 percent of organizations in the UK, US, Germany, Japan, and China.

Network Configuration Management (NCM) tools can help keep track of network devices by monitoring for unauthorized configuration changes and dis-

tributing firmware updates. Additionally, network administrators with better network visibility and control over the change workflow through NCM tools can both undo mistakes and prevent them.

Network Monitoring

Network monitoring tools analyze performance metrics and alert admins to anomalies. There are various brands that offer an overview of performance metrics such as latency, bandwidth usage, responsiveness, and network-based applications and devices.



You can enforce an acceptable use policy for all devices on your network and create automatic security by installing monitoring tools, such as firewalls and content filters.

Network monitoring tools track network device availability and bandwidth use to detect bottlenecks and anomalous activity. Network monitoring tools also monitor DNS, SQL, mail, FTP, and virtual server uptime, identifying the cause of any downtime or other network performance issues. Lastly, they can be used to filter web content, monitor internet surfing activities, and view your website's availability.

Endpoint Management

Endpoint management tools provide real-time visibility into the various

devices that have access to your network, allowing you to deploy patches, perform maintenance, and run virus scans.

There are two main types of endpoint management tools: United Endpoint Management (UEM) and Remote Monitoring and Management (RMM). The former centralizes security, patching, and performance monitoring for all mobile and desktop devices. The latter remotely gathers data on endpoints and allows admins to carry out tasks, scripts, and patching remotely.

IT workers can use a multi-platform endpoint management system to manage all devices from a single programmable panel, providing essential features such as patch management and threat detection.

Endpoint management has become crucial for school districts in recent years. Just like their business counterparts, most districts provide devices to their staff and faculty. Further, district and school tech teams that have rolled out 1:1 programs for students are managing exponentially more devices (or, in this context, endpoints) than they ever have in the past.

Identity and Access Authentication

Identity and access authentication tools help streamline the management of user accounts, including access privileges or permissions. These determine which resources individual accounts, groups, and organizational units can access in your information infrastructure.

Key features of this authentication include a database of user identities and their access privileges, tools for granting, monitoring, editing, and revoking privileges, as well as audit logging of access history.

Tools, page 13

How teachers like me can use AI to improve their teaching

An AI coaching process aligns with a focus on action-oriented professional development and is far from traditional sit-and-get professional development

Summer Workman, 7th Grade Language Arts Teacher, Keller Independent School District

It is easy, as an educator, to get stuck in a rut. In fact, it's nearly impossible to avoid at some point or another during the school year.

Throughout my 17 years of teaching, I've found myself asking questions like, "Is my instruction still engaging and fun?" and "Am I really helping my students become independent thinkers?"

I've even found myself feeling hesitant at times to use new technology. It can be time-consuming and, in some cases, intimidating.

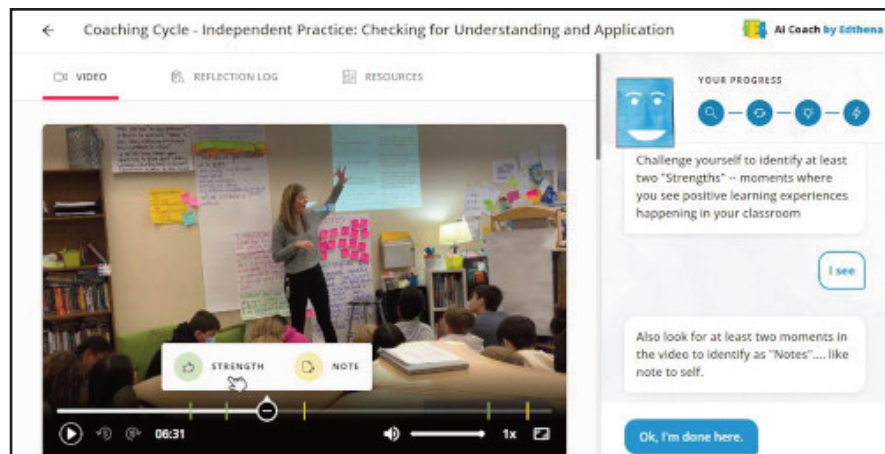
That said, when I had an opportunity to try out a new professional learning platform – one that uses artificial intelligence (AI) technology to help teachers improve their instructional practices – I wanted to push myself and try it out. At the least, it would help me step outside of my comfort zone and take a closer look at my teaching.

Engaging in action-oriented professional development with AI coaching

My district, Keller Independent School District (ISD), was one of the first districts in the nation to pilot AI Coach by Edthena. Using the platform, teachers are guided by a virtual coach as they reflect on videos of their classroom teaching and work through coaching cycles focused on specific areas of instructional practices. This includes developing goals and strategies for improvement based on teachers' own self-reflection.

I'll admit, I was nervous at first – this process meant I'd have to rewatch myself teaching and then really reflect on that teaching.

However, I soon realized being able to complete this coaching process inde-



pendently would give me the time and flexibility to gather some real insights about my own practice before I shared them (or my videos) with my coach or colleagues as part of our ongoing professional learning.

The AI Coach process also aligned well with my district's focus on action-oriented professional development. It's far from traditional sit-and-get professional development, that's for sure.

Becoming a more reflective teacher with AI coaching

As I started the AI-powered coaching process, I recorded a 12-minute mini lesson with my 7th graders, making sure my camera captured all of my actions, students, and conversations during the lesson. Since I was the only person who would see the video, I wasn't worried about a special lesson.

I then uploaded the video to the AI Coach platform and started the self-reflection process. The virtual coach asked me questions and helped me home in on specific aspects of my practice that I wanted to improve upon, such as managing student behavior and my questioning techniques.

I realized in my mini lesson, which

involved a group discussion, that some of my students were getting lost in the shuffle. Seeing this on video reminded me how important it is to stay aware of all of my students' behaviors and to ask more prompting questions to increase participation and engagement.

Continuous teacher improvement using AI

It is a game-changer getting to see yourself in action, whether it is noticing how often you say certain things, or when you miss prime opportunities for questioning, or when you simply knock a lesson out of the park. Being able to watch myself, and honestly reflect on what I saw, has had such an impact on my teaching.

Of course, it's possible to record yourself on your phone, but the reflection part is hard to do on your own. Working with the virtual coach, driven by AI to personalize the experience to my learning needs, really made the difference. It provided the extra layer of support I think all teachers can benefit from.

The self-reflections and insights I have garnered through the AI coaching process have already helped me in my lesson planning and delivery. Lessons I

AI, page 14

4 ways transparent communication builds trust in our district

**Travis Hamby, Superintendent,
Allen County Schools**

One of the best ways to build trust with parents is through transparent communication about what's happening on campus, the status of all things school-related, and how we're meeting our students' needs.

Parents are busy and don't always have time to chase this information down on their own, so it's up to district and school leaders to open up those clear lines of communication and then use them.

Technology is a great enabler for districts that want to do a better job in this area. By using our ParentSquare safe and secure platform for school-home communications, we're getting rid of the many disparate solutions that our schools were using—including social media—and replacing them with a unified solution that everyone can use and rely on.

Here are four ways that we're using technology to build trust with parents, keep them in the know and open even more lines of communication with them:

1. Get everyone on the same page.

With five schools and 3,000 students on one campus, our district was using a mix of different applications for school-home communications. The district had tried a couple of different mass communication platforms but found them to have limited features and not user friendly. For example, you couldn't cue up multiple messages to be delivered. Individual teachers—who didn't have access to these platforms—were using social media and programs like ClassDojo to communicate with families. None of these platforms “talked” to one another and finding coherence in this disjointed technology was basically

impossible. Our new communications platform provides a cohesive, standardized form of communication across the district.

2. Always use two-way communications.

Giving parents a way to ask questions and get responses to them is very important, too. As districts, we can become too distant from our parents, who don't feel like they can stay connected or get in touch with a teacher to find out what's going on with their child. Or, they have no idea how to let a teacher know that they're concerned about an issue. The trick is to come up with ways to make them more accessible and respect our teachers' time, which is also very important. With our two-way school-home communications platform, there's always the opportunity for open dialogue and sharing between teachers, staff, and parents.

3. Continually train teachers on the platform's new features.

Teachers are very busy and don't always have the time to try to figure out the inner workings of a new technology. They want to be shown the tools and how to use them effectively in the classroom. Early on we did a good job getting people on the platform and showing them how to post and direct message. Now, we want them to keep coming back to learn about new features, like permission forms, Secure Document Delivery, and so forth.

4. Lay out the framework for success.

To other schools that want to get the biggest value from their school-home communication platforms, I'd suggest mapping out all the platform's features on the front end and then create a timeline for rolling out each of those functionalities. For example, before school starts, you could train teachers how to create a post and have everyone



actually create a post by a given date; approximately four weeks later, as you near the time of progress reports, train personnel in how to use Document Delivery; a few weeks later, as you approach the time for parent-teacher conferences, show everyone how to do signups. Set up “help desk” tables at open houses and other events that parents attend, knowing that they might need some help and encouragement using the platform and/or app. It's not difficult to use, but providing that instruction is always easier when you have a captive audience.

Pulling it All Together

Today, we're better able to provide support because we're using one tool. We're not maintaining multiple tools and different platforms, which means we can provide even more support to our parents and our internal staff. For example, our IT team is now freed up to work on more important tasks than having to troubleshoot across numerous different platforms.

At the end of the day, there has to be a partnership between the school and parents in order for the needs of our children to be met. If we're going to have that strong partnership, we need strong lines of open, honest, transparent, and respectful two-way communication.

Travis Hamby is superintendent at Allen County Schools in Scottsville, KY.

What matters most for our special education teachers?

It is crucial to provide special education teachers with learning opportunities that will help them succeed in making a difference in students' lives

Angela Nelson, CEO and President, Stages Learning

We all know the problem. There is a frightening shortage of special education teachers and it's getting worse. Even prior to the pandemic, 98 percent of school districts and 49 states reported that they had a shortage and a recent RAND report found that six months into the pandemic over one-third of school leaders were experiencing special education teacher vacancies.

Compounding the problem, the number of students receiving special education services is predicted to increase sharply as students who are overdue for evaluations seek help and others who have fallen behind during COVID will need additional assessments and revised services. Increases in diagnoses, particular in children diagnosed with autism, are also having an impact. Today 1 in every 44 children in the US have autism and students with autism now account for 11 percent of all students in special education, more than double the rate of a decade ago.

The Special Education Legislative Summit Council of Administrators of Special Education has called for "all hands on deck" in addressing the shortage. Speakers at the Summit highlighted three crucial areas that need to be addressed: competitive pay, stronger recruitment, and more effective professional development. But what does effective PD look like for special educators? Is it different from what other teachers need? What works? What kind? How much? And, most importantly, what types of PD will support these educators and keep them from leaving the profession?

We now know a great deal about what types of PD can not only support

our special education teachers but help them thrive. In this new era of inclusive education — a positive development — we still need to focus on helping special educators by affirming the passion and caring that led them to enter the field in the first place. The big takeaway is that we need PD that helps these teachers affirm their professional identity, develop deeper understandings of the norms, language and routines of their profession, and helps them succeed in what matters most to them — making a difference in the lives of their students. Specifically, they need learning opportunities that are classroom-embedded, specialized, ongoing, and flexible.

Classroom-Embedded PD

Special educators report that they have had good training experiences outside of the classroom, but they also say that when the time comes to implement this new knowledge into their classrooms there is a big disconnect. The theories taught are important, but practical strategies for executing them into daily classroom experiences are missing.

Classroom-embedded PD helps teachers immediately apply and practice what they are learning directly to their classroom experiences. As they try out new skills they can receive immediate feedback, reflect on their teaching, and continuously adjust and improve their practices in real time. Expert facilitators need to have a deep understanding of each school and classroom's unique challenges and culture and use data-based strategies to target specific needs, model evidence-based practices, and provide opportunities for hands-on work to build teachers' skills, knowledge, and confidence.

Specialized Learning Opportunities

Special educators report on PD experiences that are overly generic and are aimed at the larger school or district environment and fail to provide them with what they need to be effective in reaching their specific goals within their own unique classrooms. Professional learning needs to be connected to the curriculum with specialized and relevant content that will serve to develop and deepen teachers' ability to effectively implement the curriculum.

PD that focuses on strategies connected to specific curriculum content directly transfers into more effective teaching practices. Learning can drill down to focus on immediate and specific needs such as implementing data management systems and reviewing the fidelity of an implementation. Trainers can also step in and help teachers create individualized assessments, progress monitoring and progression planning as well as develop recommendations for tailoring IEP goals to align with student capacity and grade-level standards.

Ongoing Support

The majority of special education teachers report that their PD experiences were brief and typically take place during conferences. These one-off sessions present few opportunities for reflection, fail to deepen skills or pedagogical knowledge, and infringe upon the teachers' time for planning.

Darling-Hammond and her colleagues report that the duration and intensity of professional learning has a clear and positive association with student achievement. They found that PD programs that included an average of 49 hours per year

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Using online modules to strengthen teacher leadership programs

West Virginia school districts are leveraging digital resources to help manage teacher leadership programs

**Matthew Finster & Amy Lamitie,
Region 5 Comprehensive Center**

Teacher leader programs offer opportunities for teachers to assume leader roles and leverage their expertise in teaching without leaving the classroom. Despite some of the potential and promise of teacher leader programs, new programs often struggle with problems that stem from mismanagement that limits their effectiveness.

As teacher leader programs become more prolific across the country, there is a growing need for district- and school-level staff to design policies and practices to select, develop, support, manage, compensate, and retain teacher leaders. While there is a plethora of literature on teacher leadership that addresses these components, the information is not accessible to educators in a manner that allows them to easily and efficiently digest all of the different approaches and lessons learned to adapt to their context.

To make the literature on teacher leadership more accessible and engaging, we chose to develop interactive online modules—Managing Teacher Leadership—that cover nine components critical to managing teacher leadership programs. The modules focus on increasing awareness and understanding of how to design, implement, and evaluate a teacher leader program in a school building or district.

The nine modules correspond to components of talent management and present big ideas that distill essential information from the literature and offer readers relevant approaches to the specific work described in each module, varying from general guidance and exercises to relevant tools and resources. The online modules are

designed to engage educators and make the approaches and lessons learned more accessible, to help school districts design and implement teacher leader programs on their own and at their own pace.

In West Virginia, the 2019 Board of Education Fall Listening Tour identified a need for opportunities for teachers to be able to assume leadership roles without leaving the classroom. Following the Fall Listening Tour, the West Virginia Legislature passed House Bill 4804 in 2020, directing the West Virginia Department of Education (WVDE) to help county school boards design and implement a Teacher Leadership (TL) Framework to support teacher induction and opportunities for professional growth.

The goals of the TL Framework are to 1) disseminate effective teaching strategies through collaboration, 2) develop stronger and more positive school and district cultures, and 3) increase student achievement via shared leadership structures. The WVDE requires all TL frameworks adopted by county boards to create specific roles and responsibilities; provide regular, targeted professional learning opportunities; provide time and opportunities for teachers to collaborate; monitor and evaluate the effectiveness of the TL program, and include teacher leaders in the school-improvement planning process.

Well-designed teacher leadership initiatives can improve conditions for learning and the quality of instruction, accelerate progress toward district and state goals, and establish sustainable and effective leadership systems (Center on Great Teachers and Leaders, 2019). But given multiple pressing priorities, it can be challenging to develop



well-designed teacher leadership initiatives.

Many newly designed programs struggle with common barriers that can inhibit teacher leadership, including a lack of vision and goals, poorly defined TL roles and expectations, ad hoc selection criteria or “anointing and appointing” by the principal, unsupportive school climates, undifferentiated teacher leader evaluation processes, poorly articulated teacher leader and principal leadership roles, a lack of financial incentives, and ineffective TL program evaluation processes, and tools.

In collaboration with WVDE, the Region 5 Comprehensive Center (R5CC) developed interactive online modules to support district-level staff, building-level leaders, and teachers who are interested in designing and managing formal teacher leadership programs to support school improvement. After introducing the concept of teacher leadership and its benefits, the resource presents nine sequenced modules that describe components critically important to managing a teacher leadership program.

Each of the nine modules is organized into four sections: 1) The Big Idea, which distills essential information explored in each module 2) Practices, which offers readers relevant approaches to the specific work described in the module, varying

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New research offers major insights into post-pandemic learning

Laura Ascione, Editorial Director, eSchool Media

Educators are noticeably more comfortable giving students autonomy over their learning—and this is just one of the long-term impacts the pandemic has had on K-12 education, according to insight from the nonprofit Project Tomorrow.

In its annual Congressional Briefing, the nonprofit presented this year's Speak Up Research Project findings. This year's results indicate patterns across digital learning for students and teachers coinciding with the effects that the pandemic had on learning.

The Speak Up Research Project is a national research initiative and free service to schools and districts. Since the Fall of 2003, Speak Up has helped education leaders include the voices of their stakeholders in annual and long-term planning. edWeb.net hosted the briefing, which featured keynote speaker Kristina Ishmael, Deputy Director of the Office of Ed Tech at the U.S. Department of Education.

"This moment in time presents a unique opportunity for the future of education," said Dr. Julie A. Evans, Chief Researcher and CEO of Project Tomorrow. "Students and teachers are evolving the education system we previously knew; our students are realizing the benefits of technology and teachers are evaluating this technology with new attitudes and infused styles of teaching to create new bridges and motivate students for self-directed learning to foster a more engaging experience overall."

Key takeaways from the 2021-2022 Speak Up Research Project include:

Principals are concerned with maintaining staff morale, with more than half reporting it as a top concern among many issues still facing districts after the pandemic.

Teachers are more willing to let students have autonomy in how they learn now than before the pandemic, with a huge jump of educators indicating that they feel comfortable in allowing students to have a say in how they want to learn.

Students are more comfortable utilizing school technology to learn and complete assignments. Almost every single category of digital usage in the classroom went up in comfort level among students.

Project Tomorrow will leverage these findings as it works towards the 2023 National Educational Technology Plan (NETP). The U.S. Department of Education recently announced that it has awarded the NETP contract to the State Educational Technology Directors Association (SETDA) and its coalition partners, including Project Tomorrow.

Educators can view the Congressional Briefing recording via edWeb and can earn a CE certificate through the platform. In addition to Project Tomorrow, Speak Up 2021-22 was made possible through support from Finalsity, iboss, Spectrum Enterprise, Agile Education Marketing and edWeb.

To view and download this year's report, visit <https://tomorrow.org/speakup>.

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from general guidance and exercises to relevant tools and resources; 3) Focus and Fit Tips, which reminds readers to ensure the work remains focused on teacher leadership competencies and all the practices fit together in a mutually supportive and reinforcing way; and 4) Your Turn, which provides actionable next steps to deeply engage in the work outlined in each module using the Engagement Guide.

During the 2022-23 school year, WVDE and R5CC staff will collaborate to disseminate and highlight sections of the online modules to county stakeholders to increase awareness and use of the

resource. The intention is to provide support in each component throughout the year by developing peer-to-peer opportunities to explore topics of common interest and, if requested, providing additional support to counties to help design and implement their teacher leader frameworks.

Overall, Carla Warren, Ed.D., NBCT, the Director of Educator Development and Support Services in the Office of Teaching and Learning at the WVDE commented, "I am extremely pleased with the support the department is receiving around teacher preparation and teacher leadership at this time."

While designing and implementing teacher leader programs can be chal-

lenging, there are common lessons and approaches from the literature, including the use of online educational resources, that can support these initiatives. For more information and support, contact the Region 5 Comprehensive Center. 

Amy Lamitie is the R5CC state co-lead for West Virginia and an expert in adult professional learning. Matthew Finster, Ph.D., is a subject matter expert on teacher leadership for the Region 5 Comprehensive Center, which provides capacity-building services to state education agencies in KY, TN, VA, and WV, and is operated by Westat Inc., with federal grant support from the U.S. Department of Education.

Tools

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Commonly-used identity and access authentication methods in education include multi-factor authentication (MFA) and single sign-on (SSO).

For a long time, education leaders were resistant to MFA controls. However, it is considered to be among the most simple and effective control against cybercriminal attacks, including ransomware. In fact, beginning in 2021, most cyber insurance providers serving education now require MFA controls for coverage. Without it, premiums increase significantly. That change alone has had the most influence on ending the MFA debate in education.

Cloud Security

Technically, your cloud domain is outside of your network perimeter. However, cloud security is critical to include on this list because a common

misconception is that network management and security tools are sufficient to protect data and user accounts in the cloud.

Most K-12 school districts use at least one of the big cloud tech companies such as Google Workspace, Microsoft 365, Zoom, or AWS. Further, 90 percent of school districts are using cloud applications for various purposes beyond classroom learning, such as human resources and financial information.

Cloud security protects a district's data stored in the cloud by preventing unauthorized access,

quarantining malware and phishing, and automating data loss prevention from malicious and accidental exposure. When selecting the right cloud security tool, IT professionals should look for centralized visibility, control of cloud domains, and data loss prevention automation. You should also look for a tool that provides the ability to cus-

tomize configuration because no two districts are identical.

"Defense-in-depth" is an important concept in cybersecurity that advocates for a multi-layered approach to protect, detect, and respond to risks. This combination of tools should provide the framework for an IT director at a school to protect all relevant stakeholders. But having a strategy about how to use them is also vital. Schools must have replacement cycles so, when security technology and network equipment expires, the updates are planned for in advance and have funding allocated. Lastly, benchmarks and goals for these systems give staff a great overview. For example, built-in dashboards can provide metrics that inform tech admins as to whether incidents are spiking, the types of incidents that are occurring, or whether they need to try a different set of tools. **eSN**

Charlie Sander is the CEO of ManagedMethods.

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resulted in a 21 percent increase in student achievement. They emphasize that the number of hours spent and the duration of time — typically spreading out PD over the course of a school year — are crucial to seeing significant improvement in teachers' abilities and student success.

Flexible Options Using Technology

Intentional use of technology can provide flexibility, facilitate access, and save schools and teachers time and money. Teachers and school administrators report that they want the flexibility of virtual PD, but they also find that in-person options result in greater engagement and learning. We know that in-person training lends itself to being classroom-embedded and tied to specific curricula — all factors outlined above that result in effective outcomes. At the



same time, in person is expensive, sometimes difficult to implement, and lacks the flexibility of online options.

But perhaps we can have our cake and eat it too? Webinars and videos that supplement classroom-embedded PD can serve to deepen learning. In addition, some promising new technologies can provide options that can approximate classroom-embedded PD. One example is eCoaching and BIE (Bug-in-Ear) technologies that have been shown to effectively provide performance feedback to teachers and specialists without a coach being physically present. Rural schools, in partic-

ular, could greatly benefit from this type of learning experience due to the challenges of getting trainers out to remote areas.

It is important to reduce pay disparities and create more robust recruitment strategies for special educators, but the bottom line is that if these teachers find that they don't have the support they need to be effective in the classroom, they will continue to leave. Let's focus on what matters most and provide them with learning opportunities that we know can help them succeed in making a difference in their students' lives. **eSN**

Angela Nelson has more than 25 years of professional experience in autism education, educational publishing, and edtech. She is dedicated to creating tools that increase global, equitable access to quality autism education, and to building opportunities for talented individuals to thrive and have a lasting positive impact in an environment rich in diversity and creativity. She is the CEO and President of Stages Learning.

AI

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have (or feel like I have) taught a million times are now looking different and having a stronger impact on my students. I am more deliberate in what – and how – I teach now.

The virtual coaching process with the AI-powered coach has also helped me feel more prepared for conferences with my coaches and administrators. I know what I want to discuss with them in terms of my areas of strength and my areas in need of growth.

My advice for fellow teachers looking to strengthen their practice (and maybe get out of a rut)? Lean on new technology and coaching methods that support your development. Watch yourself and reflect on your practice. And, most importantly, be inspired by moments and opportunities where you can grow as an educator. For me, AI coaching has given me the opportunity to do all of the above as I continually work to be the best educator possible, for both myself and my students. **eSN**

Summer Workman is a 7th grade Language Arts teacher in Keller Independent School District (ISD) in Keller, Texas. She was named a Keller ISD Campus Teacher of the Year in 2021-22.

Inclusive

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Get to know your students. It sounds so simple, but if you do your personal work, you'll see how often the message of "you're not normal" is imparted to young people. Invite youth to share their pronouns; ask students how to pronounce their names and then say it correctly; learn more about what is important to them and pay attention to how it shows up in the classroom.

Be intentional in centering student voice, choice, and experience. Ask open-ended questions to understand where youth are coming from. Pay attention to verbal and nonverbal cues that indicate what they need to thrive. Support youth who are navigating difficult identity moments, and let them know that being their authentic selves is their right. Integrate social and emotional learning. Build in opportunities for all learners – auditory, visual, kinesthetic, reading/writing and experiential – and allow fluidity for students to demonstrate understanding. Create opportunities for youth voice and choice. Seek feedback; check in; ask, "How was that for you?"; and role-model openness and active listen-

ing so youth feel comfortable being real with you.

For our youth, especially those who identify as LGBTQIA+, female, and BIPOC, having a space where they feel seen and uplifted is essential to effectively compensate for societal stereotypes and all the other ways they're excluded. This is mission critical to successfully identify, assess, address, and remedy the alarming **eSN**

Youn Han is the Chief Programs Officer at Girls Inc. of the Pacific Northwest, a nonprofit organization that inspires youth to be strong, smart, and bold through direct service and advocacy. Youn has more than 14 years of experience in leading and directing transformational experiential education programs in the environmental, conservation, and social service fields with a focus on strengths-based community engagement, reframing institutional narratives and operations, and centering BIPOC experiences. She holds a bachelor's degree in International Affairs from the University of Georgia and a master's degree in Environmental Studies from Antioch University New England.

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