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An AI to-do list for educators

Paul Beckermann, Senior Content Creator and Podcast Host, AVID Open Access

The AI revolution is here, and educators are feeling the impact. For many, it is exciting, unsettling and overwhelming all at the same time.

The key to successfully navigating this maelstrom of emotions is to start small, break the challenge down into achievable tasks, and begin with actions that will have the most impact. This five step to-do list can help educators engage in artificial intelligence and begin using it to positively impact both teaching and learning.

1. Learn about AI.

Begin by gaining a basic understanding of artificial intelligence. Read news stories, follow the conversation on social media, and explore some of the many free resources available online. Here are a few good options to get you started.



- The AI Revolution: Google’s Developers on the Future of Artificial Intelligence (60 Minutes)
- AI in the K-12 Classroom (AVID Open Access)
- Artificial Intelligence (U.S. Office of Educational Technology)
- Recommendations on the Ethics of Artificial Intelligence (UNESCO)

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The case for ChatGPT as the ultimate educator’s toolkit

Julia Lang, Tulane University and Dustin Liu, Stanford University

Innovations that have transformed education have often been met with skepticism. Just look at Sesame Street, which was once considered a wild, controversial experiment leveraging television for learning. Yet, by 1979, nine million children were watching the show, and kindergarten teachers had to upgrade their curricula because children were showing up knowing their ABCs and numbers and eager to learn more. What is now revered as an extraordinary show, which gently pushed the needle on integration, equity, and diversity, was once a radical experiment that rattled the American educational system.

Forty-four years later, Generative AI tools are causing a frenzy in the educational system and workforce, and in turn, for career educators who are attempting to help students prepare for the future of work.

As Sesame Street leveled the educational playing field and boosted learning for students around the nation by supplementing the experiences students were having in the classroom, *we believe that Generative AI can similarly enhance students’ career navigation process while teaching them how to ethically use a tool that will better prepare them for the future of work.*

What is ChatGPT?

In summary, this platform is “designed to understand and generate human-like text based on the input it receives. It can handle a variety of language tasks, including answering questions, writing essays, generating creative content, offering explanations, giving advice, and engaging in natural-sounding conversations” (as explained by ChatGPT itself). ChatGPT

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AI

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Beyond understanding the big picture, one of the best ways to demystify artificial intelligence is to set up a free account with one of the leading generative AI chatbots (ChatGPT, Microsoft Bing Chat, Google Bard, or Claude) and start experimenting with it.

If you're unsure where to begin, ask the chatbot for help brainstorming lesson ideas and then ask follow-up questions until you get something you can use. This hands-on experience will help you better understand generative AI tools within a practical context, and it can save you time.

2. Engage in the conversation.

Educators are the experts in teaching and learning, and they need to be at the center of conversations about how artificial intelligence will be used in education. Their input is vital in order to guide schools toward practices that will be the most beneficial to students. Questions such as these can help guide the conversation:

- What do you need to learn about AI, and how can you gain that knowledge?
- What potential benefits and challenges might AI present to teaching and learning?
- How might you need to modify current practices because of AI?
- How can you leverage AI to improve teaching and learning?
- How can you empower your students for success in an AI world?

Whenever possible, schools should integrate these conversations into professional learning opportunities and staff meetings so educators can engage with one another and collaboratively develop an action plan.

3. Teach students about it.

Today's students will graduate into an AI world and an AI-infused work-

force. To be prepared for that reality, they need to learn about it now. Several organizations have developed free instructional resources to assist teachers with this task. These materials can be especially helpful for educators who are beginning to learn about AI and may not yet feel prepared to teach it.

- The AI Education Project (aiEDU). This website offers an introduction to AI, AI Snapshots (5 minute student activities), AI challenges for students, an AI in 5 minutes primer, and even a 10 week project-based course in the project dashboard.
- Day of AI is an annual event sponsored by MIT RAISE and i2 Learning. Their website is packed with teacher-ready curriculum and activities that can be used throughout the year with students ages 5-18.
- Hands-On AI Projects for the Classroom is a guide for elective teachers from ISTE and General Motors. This document provides everything you need to implement four AI themed projects in your classroom. Projects are aligned with current ISTE standards.

4. Help students develop workforce skills.

Artificial Intelligence is impacting the workforce skills our students will need. The Future of Jobs Report 2023 from the World Economic Forum has identified the skills that companies believe will be the most important for an AI workforce.

- Analytical thinking
- Creative thinking
- Resilience, flexibility, and agility
- Motivation and self-awareness
- Curiosity and lifelong learning
- Technological literacy


To prepare students for this type of workforce, educators must design impactful learning opportunities that require the use of these AI skills. Listening to a lecture, writing notes, filling out worksheets, and taking tests will almost surely not be enough. To develop

these higher order thinking and self-management skills, students will need to engage in rich learning experiences like inquiry learning, project-based learning, creative projects, and other forms of authentic problem-solving.

5. Engage students in using AI.

To fully develop their skills, students should be given the opportunity to use AI tools in your classroom. Under your guidance and with appropriate guardrails, students can develop the skills needed to use these powerful new tools. Of course, before giving students access, be sure to review school policy and the terms of use for each AI tool to determine if student use is permitted.

If your students are not allowed to use the tools themselves, consider modeling their use. If you are allowed to use an AI account at school, project it on a screen in front of the class and have students help you generate prompts, evaluate responses, and use the generated content. Even if you're still learning yourself, engaging in the experience with your students is a great opportunity to model a growth mindset, introduce AI, and involve your students in the learning journey.

Finally, educators should identify AI tools as they and their students use them. Artificial intelligence is all around us, and students are likely already using AI tools like spell checkers, predictive text, grammar checkers, mapping programs, self-paced learning modules, and video games. Calling attention to these common applications can make the topic of AI feel less overwhelming and help students better understand the role that this transformative technology is already playing in their daily lives. 

Paul Beckermann has 34 years of experience as an English teacher, library media specialist, and district digital learning specialist. He is currently a senior content creator and podcast host for AVID Open Access.

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does have major limitations: its limited knowledge base only pulls from data prior to September 2021; it has no personal experiences or emotions to draw from; it may generate inaccurate information; and it does not have the ability to critically think and/or analyze information.

The polarized & shifting landscape of AI in education

The discourse around the use of AI in schools has sparked widespread debate. Some believe it will cripple the education system and replace human workers; others denounce ChatGPT as a free essay-writing and test-taking tool that makes it laughably easy to cheat on assignments, while the validity of responses generated by ChatGPT has also been called into question. As a result of distrusting student integrity and limitations on the tools themselves from bias to misinformation, some school districts have completely banned ChatGPT.

On the flip side, others assert that ChatGPT is a major step toward equity that could democratize learning for all, providing equitable access to knowledge and personalized coaching and support that used to only be available to more wealthy and privileged students.

In both higher education and K-12 education, AI offers numerous potential benefits, including early interventions via identifying students at risk and its ability to provide real-time feedback to both students and teachers, helping identify areas where students may be struggling and allowing for immediate intervention. AI tools can create content quickly, such as quizzes and worksheets and complete administrative tasks, such as grading assignments and generating progress reports, freeing up more time for instructional activities. ChatGPT also has the potential to revolutionize learning for students with disabilities by making information more accessible: it can summarize information, convert

text into alternative formats, and be programmed to follow any provided accessibility guidelines.

More than 1,300 experts signed an Open Letter supporting AI as a “force for good” and futurists envision a world where teachers will use AI to design courses and analyze student performance data to engineer learning interventions and new lesson plans while developing lifelong learning pathways that could keep people connected to gainful employment across decades. While AI may feel like a new field completely disrupting our current systems, it is important to recognize that we are already using AI tools in our daily lives, from navigating travel (Google Maps) and managing calendars (Calendly) to sorting and displaying photos (“memory” photo albums automatically generated by iPhones).

The changing world of work

The discourse around the role that AI should play in education is placed within a larger context of changes in the world of work. By 2030, 12 million occupational transitions are expected and experts predict that 30 percent of hours currently worked across the U.S. economy will be automated. “Traditional” career trajectories and securities are now obsolete: a college education no longer guarantees a job, a traditional job no longer guarantees a comfortable retirement; and some experts predict that big data and AI may run the world in the future and replace the majority of “human” work.

This reality should motivate our work as career educators to take on the daunting task of preparing students to enter a world of work that is radically shifting and becoming increasingly unstable. We recognize the limitations of these tools while also acknowledging the reality that AI will continue to play a critical role in the lives of our students and their future careers.

As a Professor and Associate Director of Career Education and Life Design at Tulane University and a Life Design Lecturer and Fellow at Stanford

University’s Life Design Lab, *we firmly believe that using AI tools like ChatGPT can supplement students’ imaginations as they design their futures while simultaneously teaching them how to ethically leverage the technology at their disposal.* See our [ChatGPT Prompting Guide for Life Design + Career Education](#).

There are many legitimate concerns and limitations of AI, such as privacy and surveillance, bias and discrimination, and lack of human judgment. We are not here to condone AI or claim it is a perfect tool, but rather to offer a reframe – rather than outright rejecting the tool, to consider how it can supplement our work as career educators.

ChatGPT: A powerful tool for career educators

We have spent hours experimenting with the many ways ChatGPT can be used to enhance students’ imaginations in envisioning their career journey. If this is your first time using the tool (which is free), let us show you how a few prompts can easily get you started – directions [here](#).

Life design and career educators can train ChatGPT to provide personalized tutoring or career advice based on that person’s skill sets and interests. The platform can build on that information as a user continues to provide prompts, creating more and more personalized ideas and examples.

As students begin to dream about their future and imagine what might be possible, ChatGPT is an impressive tool to use to supplement one’s ideas and discover what possibilities exist, offering suggestions about industries to explore, and possible entry level positions and career paths for particular majors.

For example, by simply pasting in a resume or providing a few specific examples of skillsets and interests a student has or area of work they want to avoid, in a split second the platform can generate five, 10, even 20 different five-year plans that are tailored to the individual.

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5 reasons to use a one-stop-shop communications platform

Implementing a new school-home communications platform led to a number of benefits across this entire district

Craig Sheil and Donna Dennis Digital Learning Specialists, Bedford School District

When our School Administrative Unit (SAU) set out to find a communications platform that all six of its schools could use across all grades, we had good reason for doing so. For starters, our administrators were using one communication system and teachers were using a completely different system.

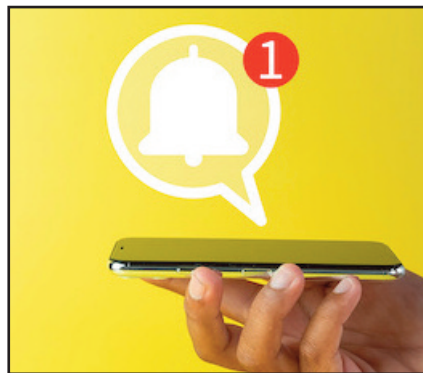
Teachers had to create their own distribution lists, which weren't always current. For example, one might develop a distribution list at the start of the new school year but would get a new student in January and forget to add the new parents to the distribution list.

Our middle school integrated arts instructors faced a different set of challenges, namely due to the rotation of their classes throughout the school year. Those teachers see half the school over the course of a year, or a different group every half-quarter. That meant teachers were creating new distribution lists with every new class rotation. And while those teachers were sending similar information to each new group, they'd still have to start from scratch for every new class.

To get everyone on the same page, we decided to implement the ParentSquare school-home communications platform. It started at the SAU principal level and then quickly moved to initiating teachers, athletic coaches, and school clubs on the program.

Here are five benefits we've seen since implementing our communications platform:

1. Flexibility across buildings. The platform is adaptable for different schools and grade levels. High school teachers may use it differently than mid-



By moving away from texts and disparate messaging solutions, we've also been able to introduce some convenient features that parents really like

dle school instructors do, for example, and that's perfectly okay. Teachers can turn on messaging at the high school level, but middle school teachers can use the platform in their own way. That's because the platform is customizable for the intended audience.

2. Streamlined parent conferences.

The platform has also helped our district streamline parent conferences. Before, every school used a different program. Now, all teachers are using the platform's conferencing tool. Being able to create templates for those parent conferences has been a huge time saver for teachers, who can adjust the templates while also maintaining a consistent look and feel across all communications.

3. Consistency across the district.

Using a single, unified communications platform also supports good consistency

across all of our schools—texting is no longer part of our protocol. You're always going to have people who want to “go rogue,” but we now have a policy in place that says this is the tool you need to be using to communicate with people. If you need to tell people that practice is canceled at three o'clock today, for example, this is the tool that you use to get the word out.

4. No more manual distribution lists. Teachers who once had to add new students to their distribution lists, or build completely new lists every quarter, no longer have to do this heavy lifting. With our communications platform synced with our SIS, PowerSchool, all information added to the latter is automatically transferred into the school-to-home communications platform. It's all taken care of for the teachers.

5. Creates an accountability record.

We've encountered some situations where parents have told us that they didn't receive the message, but we can see right in the platform's record that the message was sent, received, and read. We have that validation, and we can easily see when someone has opened all of the messages that we sent them.

By moving away from texts and disparate messaging solutions, we've also been able to introduce some convenient features that parents really like. For example, they can change their notification settings in a very individual, customized manner. The same goes for teachers, not all of whom want to receive text messages—but we want to make sure that they know when school is canceled. Because different levels of messages and alerts are sent out, the recipients don't ever get inundated with alerts from multiple different sources. **ESN**

3 lessons on perseverance from a honey badger

Perseverance requires flexibility and patience, but it results in growth and new opportunities

Jon Oosterman, Learning Specialist, Van Andel Institute for Education

Have you ever heard the story of Stoffel the honey badger? Stoffel was rescued by a wildlife rehabilitation center after being injured by a pride of lions and quickly became infamous for his many escape attempts.

No matter what his caretakers did to deter him, Stoffel always found a way to escape his enclosure. First, he taught his fellow honey badger how they could work together to open the door to their habitat. Then, he began using tools and objects to scale the walls when his care-

take, though, perseverance must be understood before it can be applied successfully. But what does that look like in the classroom? And how can educators teach students the value of perseverance in a way that's memorable, meaningful, and fun? Here are just three strategies to consider:

1. Create an environment of perseverance: To paraphrase The Magic School Bus, the classroom should be a place where students can take chances, make mistakes, and get messy! Teachers can help by creating opportunities for students to put these values into practice.

Celebrate mistakes as a learning opportunity by having students nominate one mistake that really helped the class understand something more clearly. Be sure to practice positive self-talk as well. Sometimes teaching students the right words of encouragement can be the key to boosting their resolve.

takers weren't looking. At one point, he even built a small ramp over the wall using accumulated mud and debris. Suffice it to say, Stoffel knew a thing or two about perseverance.

As an educator, I've found myself reflecting on the nature of perseverance as the new school year begins. The landscape of education is always changing, and today's students are facing hurdles that would leave even experienced academics feeling overwhelmed. We should all be taking a lesson from Stoffel the honey badger and cultivating a mindset of perseverance. Like any dis-

ciplined, though, perseverance must be understood before it can be applied successfully. But what does that look like in the classroom? And how can educators teach students the value of perseverance in a way that's memorable, meaningful, and fun? Here are just three strategies to consider:

One helpful strategy to consider is the Mistake of the Week. Celebrate mistakes as a learning opportunity by having students nominate one mistake that really helped the class understand something more clearly. Be sure to practice positive self-talk as well. Sometimes teaching students the right words of encouragement can be the key to boosting their resolve.

2. Give them a running start: It's easy to forget that students are still growing into themselves. They're in the process of discovering their interests, their talents, their limitations, and how



to overcome them. To foster perseverance, educators need to give their students the space they need to grow. One way to do this is through Tinker Time. Allow students some time to tinker with materials or ideas just for the fun of it. They can also expand on ideas in a variety of ways and directions. Tinker time is a great way to begin investigations and tap into students' prior knowledge, and it has the benefit of encouraging risk-taking and student curiosity.

3. Set goals: We want to start students off with challenges they can manage. This means learning to differentiate depending on the student. Think of it like this—if someone is new to jogging, their first goal should be running a 10K, not a marathon. When students can see progress, they gain a sense of accomplishment pushing them forward. Students can create their own goals and record, or teachers can create goals for a particular task or project. As a bonus, this is a great way to provide formative feedback to your students on how well they are doing along the way.

Perseverance demands flexibility and patience, both from us and our students. However, Stoffel reminds us that when we practice perseverance, we're rewarded with growth, new opportunities, and a wonderful sense of accomplishment. So this fall, let's all try to be honey badgers. Let's remember to persevere and face every new challenge with creativity, enthusiasm, and grit. **eSN**

Jon Oosterman is a Learning Specialist for Van Andel Institute for Education, a Michigan-based education nonprofit dedicated to creating classrooms where curiosity, creativity, and critical thinking thrive.

3 ways superintendents can maximize resources this school year

Dr. Louis Algaze, President & CEO, FlexPoint Education Cloud and Florida Virtual School

As the new school year kicks off, superintendents across the nation are evaluating resources needed for the year ahead to ensure that everyone—school leaders, teachers, students, and parents—has what they need to be successful.

During a time when many kindergarten through 12th grade education leaders are facing many challenges, including teacher shortages, declining math and reading scores, funding issues, student mental health, and more, it's critical that superintendents maximize their resources. By doing so, they'll be able to solve immediate challenges that may arise, giving them more time to focus on the long-term goals of their school or district.

Throughout my 30-year career, I've been a high school teacher, a dean of students, an assistant principal, a principal, and now a superintendent. These roles have given me an understanding of the goals and challenges faced at every level of education. They have also given me insights on how schools and districts can re-evaluate and optimize resources to generate results.

As fellow superintendents kick off the year, I offer three proven strategies to maximize resources.

1. Provide professional development opportunities to invest in your staff

While the school district I lead in Florida has less than a 7 percent turnover year over year, a recent report by the RAND Corporation showed that teacher turnover rates across the nation grew to 10 percent in the 2021-22 school year. One factor that can lead to teachers not feeling supported is not having the time or resources to invest in their professional learning and development.

As educators, it can be easy to get caught up in the day-to-day work, but

the only way to grow is by strategically dedicating learning time for your teams. Ensure they have the time to discuss their goals and key performance indicators, present projects, or hear from third-party speakers to learn about the latest trends in kindergarten through 12th grade education. Teachers make the magic, which is why it's important to ensure they have the tools and training needed to feel confident, prepared, and supported.

2. Leverage online resources to individualize student learning and mitigate learning loss

Over the past two years, the Nation's Report Card has shown widespread declines in student achievement, with average scores declining 7 points in reading and 14 points in mathematics compared to a decade ago.

To address and mitigate these concerning scores, educators should consider personalizing learning for every student. The best way to do that is by offering an online or blended learning environment because it empowers parents and students to take control of their education journey and learn in the way that works best for them.

Rather than all students in one classroom going at the same pace and covering the same subjects, online, blended, and hybrid learning provide students with flexibility, accessibility, self-pacing, and more support. For example, if a student masters a concept and is ready to move to the next lesson, they can do so, or if a student needs more time to understand a lesson, they can take that time.

Although there are synchronous live lessons with online learning, there is more time for students to learn asynchronously, giving teachers the flexibility to provide individualized support during the day. These personalized sessions not only foster connections between teachers and students, but also

offer insights into their challenges, strengths, and personal interests.


Additionally, establishing one-on-one connections with students and their families enables teachers to discern the root cause of a student's academic setbacks.

3. Explore short-term interim support when facing teacher shortages

While it's imperative that superintendents adjust district-wide HR practices on how to attract, recruit, and retain teacher talent to help with teacher shortages, that is a long-term solution that will take time. Therefore, it's crucial that superintendents leverage short-term solutions in the interim.

My recommendation is to partner with an experienced virtual school to help fill vacancies that can help with hiring teachers on-demand for specific needs. Virtual teachers can be quickly onboarded to cover and support your students, covering gaps in instances such as when a teacher leaves unexpectedly or when there are recruitment challenges for specific subject areas like World Languages or Electives.

No matter where help is needed, a strong virtual partner should feel like an extension of your culture and a continuation of the incredible work that your teachers already do. You'll set yourself up for success if you find a virtual partner that truly listens to your district's needs and cares about individualizing learning for your students.

I hope these three strategies give some piece of mind to my fellow superintendents this school year. My priority has and always will be to do what's best for our students, and I believe these three strategies will do just that. Wishing you a wonderful school year ahead! 

Dr. Louis Algaze is the President & CEO at FlexPoint Education Cloud and Florida Virtual School.

6 tips to detect AI-generated student work

Although AI has some educators worried, it's possible to identify AI-generated student work from human-generated work

Steven M. Baule, Ed.D., Ph.D.

As the school year starts, the excitement and stress about the potential use of generative AI has K-12 teachers and university faculty collectively stressed about these new tools and their potential impact on instruction. A recent professional development meeting about AI at a midwestern university set a new attendance record for such events.

There is no sure-fire way to identify text as generated by AI, and some of the early tools offered to do such have either been shown to be only somewhat effective or have been withdrawn from public use as not meeting their developer's standards. A spate of AI detectors are available, including CopyLeaks, Content at Scale, and GPTZero, but most will note it is important to consider the results in conjunction with a conversation with the student involved. Asking a student to explain a complex or confusing portion of a submission might be more effective than any of the AI detectors.

Instructors at all levels should consider the following criteria to help them determine whether text-based submissions were student or AI-generated:

1. Look for typos. AI-generated text tends not to include typos, and such errors that make our writing human are often a sign that the submission was created by a human.

2. Lack of personal experiences or generalized examples are another potential sign of AI-generated writing. For instance, "My family went to the beach in the car" is more likely to be AI-generated than "Mom, Betty, and Rose went to the 3rd Street beach to swim."

3. AI-generated text is based upon looking for patterns in large samples of text. Therefore, more common


words, such as the, it, and is are more likely to be represented in such documents. Similarly, common words and phrases are more likely to appear in AI-generated submissions.

4. Instructors should look for unusual or complete phrases that a student would not normally employ. A high school student speaking of a lacuna in his school records might be a sign the paper was AI-generated.

5. Inconsistent styles, tone, or tense changes may be a sign of AI-derived materials. Inaccurate citations are often common in AI-generated papers. The format is correct, but the author, title, and journal information were simply thrown together and do not represent an actual article. These and other such inaccurate information from a generative AI tool are sometimes called hallucinations.

6. Current generative AI tends to be based off training materials developed no later than 2021. So, text that references 2022 or more recent events, etc. is less likely to be AI-generated. Of course, this will continue to change as AI engines are improved.

This article is not intended to dissuade instructors from using AI detection software, but to be aware of the limits of such tools.

In the end, like in any other student issue, speaking with the student is the best way to determine if the student is submitting their own work or that of a machine. One potential method would be to randomly ask one or two students to orally explain how they developed their submission for the class for each assignment. This oral exam method might go far in encouraging students to be prepared to defend their own work and to not rely on AI. 



Dr. Steve Baule is a faculty member at Winona State University (WSU), where he teaches in the Leadership Education Department. Prior to joining WSU, Baule spent 28 years in K-12 school systems in Illinois, Indiana, and Iowa, and two years teaching in the University of Wisconsin System. For the 13 years prior to moving to the university level, Baule served as a public school superintendent. He has written 10 books on a variety of educational and historical topics and has served on the editorial boards for two journals. Baule earned an advanced diversity and equity certificate while in the UW system. He holds a doctorate in instructional technology from Northern Illinois University and a doctorate in educational leadership and policy studies from Loyola University Chicago.

Baule has held memberships in the American Association of School Administrators, the American Library Association, the American Association of School Librarians, the Association for Supervision and Curriculum Development, the Consortium for School Networking, the International Association of School Librarians, the National Association of Secondary School Principals, the National Staff Development Council, and many of their state affiliates. He has served as a consultant in the areas of educational technology, facilities design, library program development, team building, and communications.

Reliable internet and Wi-Fi in schools should be top priority

Roger Sands, CEO and Co-Founder, Wyebot

Connected Nation's 2022 Report on School Connectivity notes that one-third of school districts—23.5 million students—still need improved access to the internet and digital learning. Without access to reliable internet and Wi-Fi-dependent devices, students and teachers face disadvantages, and schools can have a hard time meeting their educational goals.

Let's look at why that is—and what can be done to ensure connectivity in every classroom.

Disadvantages caused by poor internet and Wi-Fi connectivity

Schools are turning more and more to technology and devices to support e-learning goals, life skills, and instructive and fun activities.

- Poor connectivity—such as dead zones, dropped signals, or long buffering times—can mean:
- Students face obstacles completing classwork
- Students lack tech-related skills and digital literacy, especially if the classroom is the only place they have access to Wi-Fi technology
- Educators can't supplement their teaching with online resources
- Stress levels rise if issues happen during online testing
- Staff have issues completing tasks
- Parents have trouble communicating with schools

Any issue can mean teachers lose countless minutes trying to troubleshoot the problem, adapt lesson plans, and keep children engaged. Those minutes—and potential frustrations—add up throughout a school year. No school wants to be a space that limits learning opportunities. This means that the Wi-Fi and the internet must be an always-available resource for every person on campus.



What is needed for reliable internet connectivity and Wi-Fi in schools

How do schools make and keep promises of reliable Wi-Fi for all? They must have:

- IT professionals
- Real time issue alerts
- Real time and historical analytics
- Remote troubleshooting

IT professionals: IT professionals are an integral part of any school. They monitor the hundreds or thousands of connected devices, troubleshoot problems, make recommendations on upgrades, and keep everything running smoothly. However, with so many devices, and taking into account the fact that network behavior can change in a second, there are tools and solutions that schools should have on hand to support IT. For example, IT cannot analyze the behavior of every device in real-time. Yet, real-time analytics are needed to ensure issue-free, reliable networks. IT can also not be in more than one place at a time, but many are responsible for more than one school. This is why solutions that offer remote troubleshooting are so helpful.

Real-time issue alerts: When issues occur, IT must be alerted immediately so that resolutions can be implemented at once. Frequently, in schools (and all environments), issues are intermittent. They can seemingly resolve themselves in minutes, and it can be tempting not to submit an issue report right then and there. However, this leads to IT being told hours/days after the fact that there was a problem. When the issue recurs, as it almost inevitably will, the same thing happens. IT is now left with outdated information and teams have to scan through pages and pages of management data to try and discover what was happening at the time of the issue.

This is incredibly time consuming.

With real-time alerts, IT knows the instant an issue occurs. Some tools and solutions will also identify the root cause of the issue, again saving IT significant time. With these alerts, problems are debugged and resolved quickly, improving network behavior now and in the future.

Real-time and historical analytics: Real-time analytics and insights keep IT informed of network behavior and per-

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5 ways to update aging media centers

Melanie Honeycutt, Ed.D. & Debbie Dale, Burke County Schools

It's been about two years since we received the Elementary and Secondary School Emergency Relief (ESSER) funding that we needed to be able to update our aging media centers. Not only were the furniture and fixtures old, but most of the seating was made of cloth and nearly impossible to sanitize or disinfect.

We used this ESSER funding opportunity—plus some additional funding from other sources—to thoroughly review our current facilities across 27 different schools. We sought out the facilities with the highest need, knowing that some of them had been upgraded in recent years. Others, however, were still using furniture from 1972—the same year that the schools had opened.

Here are the five steps we took with our partner MiEN to update our aging media centers into flexible, inviting spaces that are conducive to modern learning styles:

1. Prioritize schools with the most need. We looked at the schools that had the highest need and prioritized two middle schools whose facilities were in the worst shape. They had shelving that was 6' X 8' feet long and totally con-

nected, plus seating that was old and uncomfortable. We sat down and decided that those would be the first schools to get the upgraded media centers, and we'd tackle the high schools next (the elementary schools would be last because we needed to secure some supplemental funding before we could actually finish those).

2. Set parameters for design. The design of our new media centers had to be different, progressive, and sustainable. This furniture would have to last another 30 years because that's probably how long it'll take before we can order it again. There also had to be a way to reposition the furniture to support collaboration among teachers and students, and to create places for both small and large group instruction. Finally, we wanted mobile shelving and an easy way to disinfect and clean all of the furniture and surfaces.


3. Incorporate technology early in the game. We wanted the media center to have mobile power. We ordered some power strips that could be mobilized or moved around because some of our media centers only had three total outlets; you have to think about that when you're using technology. Also, make sure the tables are big enough to hold your laptops and other items. Make sure your wi-fi

infrastructure is in place. Digital content is important—particularly in middle and high school—and you have to make sure that you provide the space and capability for massive downloads at one time for the entire class.

4. Don't get too many cooks in the kitchen. We got our principals involved at the outset and let them look at the final designs (and offer any input), but we didn't let everyone weigh in—knowing that it can easily delay or hold up progress. To keep it as simple as possible, we involved the principals and the media coordinators, who then independently shared information with individual teachers as they saw fit.

5. Choose pieces that encourage collaboration. Make sure the tables can be redesigned and reconfigured. Sometimes our middle and elementary schools work on robotics or LEGOs and need the tables to be able to be put together or pulled apart. Finally, make sure the furniture and the other items that you're ordering complement the collaboration and instruction that needs to take place in that space.

We kicked off our new media installations in February, which means some students saw the new facilities for the first time when they returned for the 2023-24 school year. Once all of our existing middle and high school media centers are upgraded, we plan to use the modern spaces in new ways.

For example, we'd like to roll out esports in the high school media centers at some point, because we now have the facilities to be able to do that. We've been in the 21st century now for 23 years; it's time to start thinking about the next one. 



Melanie Honeycutt, Ed.D., is the Chief Information Officer for the Digital Teaching and Learning Department and Debbie Dale is the District Media Coordinator and Instructional Technology Facilitator for Burke County Schools in Morganton, NC.

Reading, writing, and cybersecurity: Practicing good cyber hygiene

Bob Turner, CISO for Education, Fortinet

The school bell is about to ring in another academic year, and as children pull out their lunchboxes and teachers decorate their rooms, schools continue to face an onslaught of cyberthreats while also grappling with perpetually insufficient budgets, legacy IT, and under-staffing concerns.

The increased level of connectivity in today's schools means richer opportunities for learning and community, but it also puts at further risk the financial data, personally identifiable information (PII) and other sensitive information that educational institutions hold.

K-12 schools received a cyber maturity score of 3.55 out of 7 from the Nationwide Cybersecurity Review (NCSR) risk-based assessment, despite the fact that many school districts are trying to strengthen their cybersecurity posture. And according to 29 percent of K-12 participants in that report, a cyber incident occurred in their district in the previous year. Malware and ransomware were two of the most prevalent occurrences. According to the report, ransomware attacks pose the greatest cybersecurity risk to K-12 schools and districts in terms of overall cost and downtime.

The good news is that the federal government is taking this seriously. In early August, the Biden Administration announced a new plan focused on strengthening cybersecurity in K-12 schools. While the elements of this plan are rolled out, school IT teams and leaders can also start to take action in another area: cyber hygiene for students. It's never too early to start teaching children basic cyber literacy.

New rules are part of the solution

The Biden Administration's new pro-

posal comes on the heels of a report from the Cybersecurity & Infrastructure Security Agency (CISA), Protecting Our Future: Partnering to Safeguard K-12 Organizations from Cybersecurity, which offers guidelines for schools to help bolster defenses.

Guidelines include investing in the most impactful security measures and building toward a mature cybersecurity plan, recognizing and actively overcoming resource constraints, and focusing on collaboration and information sharing. CISA will continue to engage with federal partners, including the U.S. Department of Education, and work closely with state and local officials, school leaders, emergency management officials, nonprofits, community leaders, and the private sector to identify areas for progress and provide meaningful support that measurably reduces risk.

Other elements of the administration's new plan include a proposed pilot program that will provide up to \$200 million over three years to strengthen security in schools and libraries with the help of federal agencies, and establishing a new council to coordinate between federal, state and local leaders to help bolster cyber defenses in schools. It also calls for new resources for reporting and enlists the help of private companies to provide free and low-cost resources for school districts, including training.

It's great to have support at this level, but it will take some time for these plans to roll out to schools. In the meantime, district leaders and IT teams can start implementing good cyber hygiene practices right away.

Fostering good cyber hygiene for teachers and students

People don't have to be tech geniuses to practice good cyber hygiene. Teachers and even the youngest stu-

dents can be taught some basic cyber hygiene practices. For instance, a very common-sense practice is to not share passwords or any kind of PII with strangers online. Teachers and students must learn what suspicious links look like and learn not to click them, or to open unexpected attachments or download anything on their computers without approval. When students are online in the classroom, teachers can ensure that they use only approved websites and applications and get approval for certain activities.

When it's age-appropriate, children can learn how important strong passwords are and how to create them. Best practices include:

- Create longer passwords that are personally meaningful but that don't contain any PII. An example would be a line from an obscure song with numbers and symbols mixed in to create a password that's at least 10 characters long. These are much harder, if not impossible, for attackers to guess.
- Use a unique password for each account.
- For all your online accounts, create one-of-a-kind, long and difficult passwords using a password manager.

Obviously, younger children, like those in kindergarten through third grade, aren't going to be creating or using strong passwords. Educators at that level will need to be creative in how they help students at that age protect their work, but certainly by middle and high school, this will be a key part of learning.

Pre-teens and teenagers can learn to understand how to securely navigate social media. For example, it's wise to not use social media accounts to log in to certain kinds of platforms, because those platforms then have instant access to whatever PII is available in those accounts. If there's

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Digital citizenship, digital literacy, and education

The Oshkosh Area School District is actively addressing digital citizenship with students in the district's elementary, middle, and high schools

Kathleen Stephany, Technology Integration Coach, Oshkosh Area School District

Sometimes it feels as though social media has taken over the world. We live in an age of competing attention to hold our interest. If you have ever been in a K-12 classroom, you will see that it won't take long for students to be distracted by the latest YouTube video or TikTok trend. We must find the balance in day to day interactions at school, work, and with family to focus on what is important at the time.

First, it is important to define a few terms. According to Virtual Library, digital citizenship is "engaging in appropriate and responsible behavior when using technology." Digital literacy is the ability to find, evaluate, and communicate information using digital platforms. A digital footprint is the trace one leaves behind on the internet which can be from posting photos, videos, or text.

The Oshkosh Area School District (OASD) in Oshkosh, WI is actively addressing digital citizenship with students in their elementary, middle, and high schools. A team of library media specialists adapted the free Common Sense Media curriculum. They work with classroom or homeroom teachers to deliver monthly instruction based on various topics which include: media balance, online safety, digital footprint, cyberbullying, and more. Another option for other districts and schools could be to leverage their learning management system to push out lessons. Additionally, the OASD's library media department promotes Digital Citizenship Week each October and shares a handout with families to promote conversation between parents/guardians and their students.




It is important to note that Common Sense Media is not the only platform available. ISTE has a plethora of resources as well and emphasizes the benefits of using social media in the classroom. In Digital for Good Richard Culatta explains five qualities youth should develop in order to thrive and contribute as a good digital citizen. Additionally, #ICANHELP is a non-profit that focuses on helping students and educators to "lead, educate, and engage" in the positive power of social media.

The Oshkosh Area School District also evaluates apps for curricular value and for data privacy. Teachers are able to request apps, extensions, and websites that they would like to use in the classroom with their students. First, the curricular team reviews the tool. If it is deemed appropriate, they send it to the technology integration team who reviews the Terms of Service and the Privacy Policy. Items that the team examines for each tool can include COPPA compliance, protection (or disclosure) of Personally Identifiable Information (PII), and compatibility with current technology. The resource will then be placed on an approved resources list and categorized as following: Green (district supported), Blue (approved but not supported), Yellow (approved with cautions), or Red (not approved). View more information on the Instructional

Technology page from the Oshkosh Area School District website.

When families ask what resources are available, schools may refer them to Common Sense Media for Parents. Guardians are encouraged to engage in conversations with their children as to what apps they are using and who they are talking with online. Additionally, Google has offered Be Internet Awesome for internet safety. Often parents can change the settings on their child's phone to regulate access. Cell phone and internet providers may also offer resources or tools. Ideas such as not allowing computers or phones to be charged overnight in bedrooms may be helpful.

Social media companies are also investing in ways to help children balance a healthy amount of social media. While TikTok has a Kids Mode for those under 13, they will be instituting time limits for children under 18. After one hour of screen time, it will prompt teens for a passcode causing the user to have to actively decide whether to keep scrolling on the app. Of course, it will be up to the user and the family to input the correct age information when signing up for an account to take advantage of these settings.

In conclusion, schools should work with educators and families to ensure students have an awareness of their digital footprint and teach ways that social media can be positive. Students need time to learn appropriate digital skills and practice those skills inside and outside of the classroom. These digital literacy skills will help them to be college, career, and community ready. 

Kathleen Stephany is a Technology Integration Coach in Wisconsin's Oshkosh Area School District.

Reliable

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formance throughout the day. With this data, IT confidently knows that the network is behaving as expected and meeting all user needs. If performance changes, IT teams have the insights needed to address any problems.

Historical analytics add value in two ways:

1. They give IT insight into what occurred when no one was onsite—either overnight, over a holiday, when IT was at a different location, etc.
2. They highlight long-term behavior and performance trends. Decision makers can use these trends to identify upgrade/update needs, keeping the network future-proofed and budget friendly.

Remote troubleshooting: IT professionals need the ability to solve problems from any location at any time. Any resolution implementation that requires travel, requires students and teachers to spend more time with the problem. This is true whether IT must drive across

town or walk from one end of a building to another. Travel means resolution delays. Remote troubleshooting removes travel from the equation, allowing problems to be resolved faster.

Another benefit to remote troubleshooting is that IT teams don't have to have access to hard-to-reach or busy locations to identify and resolve problems. This means they don't have to interrupt classroom time or try to reach devices fixed to the ceiling of an auditorium, or in a stadium.

Support education with reliable connectivity

Find the best tools and solutions for your school that provide these capabilities and you will experience a difference. There are individual tools, all-in-one solutions, and Wi-Fi automation solutions. Wi-Fi automation returns time to IT and saves schools money by automating the detection, notification, and mitigation of Wi-Fi issues. These solutions analyze the entire network environment and are vendor agnostic. With so many resources dependent on the internet and the Wi-Fi,

don't let connectivity slip to the bottom of your priorities. Support students, teachers, and staff with the tools they need to surpass all academic goals, this year and every year. **eSN**

Roger Sands is a co-Founder and CEO of Wyebot, Inc. Roger has 17 years of executive management positions in successful networking startups and Fortune 500 companies. Prior to Wyebot, Roger was the Business Line Manager for Hewlett-Packard's WW WLAN business growing it from #6 to #2 market share. Roger joined HP via the acquisition of Colubris Networks, a wireless startup where he held a number of executive positions including co-CEO and was instrumental in the HP acquisition. Prior to Colubris, he was a GM at Accton Technology founding the enterprise wireless business and building it to #3 market share via 6 strategic partnerships. Roger also held senior management positions at 3com, USRobotics and Bytex Corporation. Roger holds a Masters and Bachelors in Electrical Engineering at Northeastern University.

Cyber Hygiene

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no other way to connect to that platform, students can create dummy accounts to use only for this purpose.

Students also need to be cautious about instant messaging services due to social engineering risks. The rule about never giving out PII applies here, especially financial information. And QR codes, though convenient, can send students to a site with malicious files waiting to be downloaded.

And for teachers and staff, from the White House to the private sector, organizations are already offering cybersecurity training for K-12 school districts. Such programs provide academics and employees with the most recent information, advice, and suggestions to help them make better decisions when faced with cyberattacks and other dangers to the school. These free train-

ing programs are already being used by many districts.

Knowledge is power—and stronger security

As long as there are school IT teams working with few human and financial resources, there will be cyber adversaries trying to take advantage and break into school networks. This requires a two-pronged approach: technology and training. Because students have network access, they need to learn how to use it safely and responsibly—IT does not bear the sole responsibility for cybersecurity.

Individual cyber hygiene plays a huge role in helping to defend the network. Training for students, teachers, and staff will help IT teams keep the bad actors out and will ultimately help create a cyber-savvier generation. **eSN**

Bob Turner has years of experience as a higher education executive, board

member, and thought leader with a focus on cybersecurity strategy and leadership, information assurance and business continuity planning, and information technology management. At Fortinet, he is the CISO for K-12 and higher education acting as a senior level strategic business and technical advisor for the cybersecurity community and business executives. Previously, Turner was a cybersecurity executive and Director of the Office of Cybersecurity reporting to the Chief Information Officer/Vice Provost for Information Technology at the University of Wisconsin at Madison. There, he built a cybersecurity team of 60+ cybersecurity experts delivering all cybersecurity services as well as improved university IT policy development by working with distributed IT and faculty governance groups to ensure cohesive approach to IT policy, governance, audit, and cybersecurity operations.

ChatGPT

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ChatGPT can support students in networking and designing how they are seen to the outside world by creating personal introductions a student could use in a networking conversation, drafting a personalized LinkedIn profile, generating questions to ask in an informational interview, and even providing a relevant list of potential networking events or groups related to personal career interests.

As life design educators, we always encourage students to test out potential pathways before choosing a way forward. ChatGPT can support that, too, quickly generating ideas for experiments that students could use to test their ideas before committing down one path.

The platform can also support students in analyzing ethical considerations in a potential field and making informed decisions in moving their life design forward—though, of course, it does not have the ability to critically analyze information and can generate inaccurate responses.

We believe an important learning exercise for students is to verify the accuracy of information provided and decide what they hope to do with the information generated. As career educators, this is where we help students make informed decisions by providing the benefit of lived experience, critical analysis, and cultural awareness that can support students as they use this tool to navigate potential opportunities.

(When we asked ChatGPT if it can and will replace career educators, the platform responded to the contrary, noting its many limitations and emphasizing the importance of human guidance.)

Conclusion and considerations


In design thinking, we talk about “wicked problems,” such as homelessness, racism, and global climate change. We continuously confront these issues on shifting ground. These problems have no limits or determined conditions and are a moving target – a solution created in one location in one moment of time might not work in another era or location. As we all confront the “wicked problem” of AI, none of us know how AI will change the world, let alone the world of work, but we do know that designers work with changing problems rather than linearly fight against them.

Learning how to be a nimble and adept problem solver is a skillset of the future. Today’s graduates are expected to have 15-20 jobs over their lifetime, compared to baby boomers who, on average, had a handful of jobs over a lifetime of work. With the development and release of Generative AI, many jobs will be radically shifting or disappearing altogether, and students and others must become expert job seekers who can look for work at a more frequent rate.

While we work in higher education and see the enormous potential and power of using this tool to support our students prepare for life after college, we

believe that AI tools can also be an invaluable tool for K-12 educators, who play a vital role in shaping the educational journey of young learners. K-12 educators can similarly harness ChatGPT’s capabilities to foster creativity, critical thinking, and career exploration via its capabilities to provide personalized guidance and inspire young minds to envision their future paths including but not limited to a college degree.

As educators preparing students for the future of work, we have a duty to familiarize them with AI tools, which are likely to be a part of their workplace landscape. Thus, we encourage all life design practitioners, K-12 educators, and career educators to consider how this emergent technology can support your students in dreaming about and exploring their future. If you are a classroom educator, you might consider adding a note in your syllabus about the appropriate use of AI tools.

With the reality that artificial intelligence will continue to play a critical role in the lives of our students and their world of work, we can stay on the forefront of educational innovation by ethically and responsibly using AI. As life design and career education practitioners, we play a critical role in supporting our students as they imagine and design their future in a complex and changing world. 

Julia Lang is a Professor of Practice & Associate Director, Taylor Center for Social Innovation and Design Thinking at Tulane University.

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CEO	Rob Morrow	rmorrow@eschoolmedia.com
Vice President, Online Products & Services	Nancy David	ndavid@eschoolmedia.com
Editorial Director, Content Services	Laura Ascione	lascione@eschoolmedia.com
Custom Content Manager	Chris Hopson	chopson@eschoolmedia.com
Marketing Director	Janice Budai	jbudai@eschoolmedia.com
National Director of Sales and Business Development	Stephanie Ciotola	sciotola@eschoolmedia.com
	Caliann Mitoulis	cmitoulis@eschoolmedia.com
Director, Client Services	Denise Crowe	dcrowe@eschoolmedia.com
Director of IT	Vincent Carlson	vcarlson@eschoolmedia.com
Web Comm. Specialist	Jeffrey Festa	jfesta@eschoolmedia.com

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9711 Washingtonian Boulevard, Suite 550, Gaithersburg, MD 20878
 Phone: (301) 913-0115 • Fax: (301) 913-0119
 eMail: ndavid@eSchoolNews.com
 Home Page: www.eschoolnews.com

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